Engin.
Lapon

INDEX.

VOL. CXL.

Illustrations.

Names.

See also Separate Section, Olympia Shipbuilding, Engineering and Machinery Exhibition.

A

AHRONS, E. L., British Steam Railway Locomotive from 1825 to 1924, 2, 28, 54, 80, 104, 132, 156, 180, 206, 232, 258, 284, 312, 338, 366, 394, 422, 452, 480, 508, 538, 570, 598, 628; (Letters), 36, 88, 123, 140, 172, 173, 198, 199, 210, 237, 275, 294, 317, 376, 400, 429, 469, 470, 580, 668; (Erratum), 481
Albion Motor Car Company, Ltd., Thirty-seater Omnibus, 460
American Conveyors, Newspaper, 610, 619
Armstrong-Siddeley 18 H.P. Six-cylinder Motor Car Engine, 383
Armstrong, Sir W. G., Whitworth and Co., Ltd., Pliers for Making Hose Joints, 636
Armstrong, Sir W. G., Whitworth and Co., Ltd., Swedish-American Motor Liner Gripsholm, 579, 614 (*Two-page Supplement, December 4th*, 1925)
Ashdown Rotoscope, 272
Ashworth and Parker, Ltd., 25-Kilowatt Steam Generating Sets, 471
Aspinall, Sir John A. F., Some Railway Notes Old and New, 510
Associated Equipment Company, Ltd., "Ramillies" Motor Omnibus Chassis, 457, 458, 459
Atkinson-Walker Wagons, Ltd. Uniflow Steam Tractor and Boiler, 513, 514
Austin Three-speed Tractor, 512

B

BARFORD and Perkins, Ltd., Quick Reverse Water Ballast Motor Roller, 587
Beardmore All-steel Quick-running Oil Engine, 344
Beardmore-Blake Oil-fired Boiler, 224
Beardmore, Wm., and Co., Ltd., Lloyd Sabaudo Liner Conte Biancamano, 496, 517, 520, 542
Bentley Motors, Ltd., Six and Four-cylinder Cars, Chassis, Engines, 382, 383
Binyon, Major B., Marine Wireless Apparatus, 524
Blackstone's Fuel Injection Arrangement, 34
Bolton-Gray Sectional Superheater Element, 410
Boulton and Paul, Motor-driven Pump, 643
Briggs' Railway Collection, 108
Birkinshaw's Malleable Iron Rails, 109
Bristol Tramways and Carriage Company, Ltd., Sixty-seater Omnibus, 460
British Marine Aviation, 399, 406
British Steam Railway Locomotive from 1825 to 1924, E. L. Ahrons, 2, 28, 54, 80, 104, 132, 156, 180, 206, 232, 258, 284, 312, 338, 366, 394, 422, 452, 480, 508, 538, 570, 598, 628; (Letters), 36, 88, 123, 140, 172, 173, 198, 199, 210, 237, 275, 294, 317, 376, 400, 429, 469, 470, 580, 668; (Erratum), 481
For Locomotives Illustrated, *see* Subjects Index, Locomotives
British Steel Piling Company, Ltd., Formation of Vibro Concrete Piles, 636
British Thomson-Houston Company, Ltd., Auto-Transformer Starter, 411
British Thomson-Houston Company, Ltd. Electrical Equipment for Large Excavator, 488, 489, 525
British Thomson-Houston Company, Ltd., Steam Turbine-driven Scavenging Blowers, 678, 679
Brush Electrical Company, Ltd., 35-Kilowatt Alternator, 72
Büchi, Alfred, Diesel Engines and Hydro-electric Power Stations, 120, 146
Buckton, Joshua, and Co., Ltd., 330
Burndept Wireless, Ltd., Electrolyte Rectifier, 235

C

CAMPBELL Gas Engine Company, Ltd., Internal Combustion Engines for Drainage Plant, 562
Canadian National Railways, Diesel-electric Rail Cars for, 430, 434
Canal de Castilla, Spain, 349
Carver Textile Patents, Ltd., Carver Loom, 374
Ceylon, Erecting a New Bridge in, 56
Chaplin, Alex., and Co., Ltd., 4-Ton Electric Wharf Crane for Durban, 276, 277
Chester, Royal Agricultural Society's Show at, 34
China, Shallow-draught Twin-screw Steamer for, J. I. Thornycroft and Co., Ltd., 274
Colne Valley Water Company, Eight Million Gallon Reservoir at Bushey Heath, 456, 464
Cowans, Sheldon and Co., Ltd., 12-Ton Electric Transporter at Middlesbrough, 350, 358
Crankless Engines, Ltd., Michell Engine, 487
Crompton and Co., Ltd., 2600 H.P. Three-phase Alternating-current Motors and 400 B.H.P. Vertical-spindle Motors (for Pump Driving) for a Paper Pulp Mill, 95, 96
Crossley 18–50 H.P. Six-cylinder Motor Car Engine and Chassis, 383, 384
Crossley-Kegresse 25–30 H.P. Chassis, 459
Curtis Automobile Company, Ltd., Lancia "Pentaiota" Chassis, 457

D

DABEG Feed Pump, Combined Feed Pump and Heater, Oil Separator, Vickers Ltd., 20
Daimler 16–55 H.P. Chassis, 404
Darracq Six-cylinder Chassis, 438
Daventry, High-power Wireless Broadcasting Station at, 110, 116
Davey, Paxman and Co., Ltd., Mixing Plant for Asphalt or Bituminous Macadam, 528; (Correction), 656
Davey, Paxman and Co., 15in. Gauge Locomotive, 70; (Paragraph), 115
Dawson, Sir Philip, and Professor S. Parker Smith, on Main Line Railway Electrification, Austria, 182, 208; France, 341, 423
de la Cierva, Don Juan, Autogiro Flying Machine, 430
Digby, W. P., Vibrometer Records of the Vibrations of Buildings, 356
Drac-Romanche Water Power Undertaking, 692, 696
Drewry Car Company, 40–50 H.P. Petrol Locomotive, 10
Drummond Brothers, Ltd., Radial Drilling Machine, 384

E

EGYPTIAN Government Workshops, Boulac, Cairo, 315, 316, 322
Electric Steel Castings Company, "Esco" Simplex Wheels, 457
Emerald, H.M.S., 580
English Electric Company, 20,000-Kilowatt Turbo-generator, 547

F

FAIRFIELD Shipbuilding and Engineering Company, Ltd., Motor Refrigerator Ship Upwey Grange, 678
Farrer, William E., Ltd., Sand and Oil Trap for Garages, 587
Fiegehen, Edward G., Standardisation of Crane Essentials, 600
Fielding and Platt, Ltd., Large Hydraulic Flanging Press, 468, 469
Filma Oil Burners, Ltd., Oil Fuel Burner, A New, 304
Fletcher, E., Some Applications of Research to Modern Foundry Practice, 667, 703
Fodens, Ltd., 6-Ton Steam Lorry, 644
Fodens, Ltd., Steam Tractor with Three-speed Gear, 618
Fowler, John, and Co. (Leeds), Ltd., Laversedge Reinforcement Placing Machine, 637
Fowler, John, and Co. (Leeds), Ltd., Mole Draining Machine and Tile Drain Ramming Machine, 61

G

"GARRETT" 2-Ton Electric Vehicle Chassis, 459
Garrett, Richard, and Sons, Ltd., Electric Trolley Omnibus, 196; (Correction), 256
German Light Cruiser Emden, 549
Gezira Irrigation Scheme, 211, 216
Gilkes, Gilbert, and Co., Ltd., Hydraulic Turbines, 223
Gresham and Craven, Ltd., Reducing Valve for Vacuum Automatic Brake, 645
Gripsholm, Swedish Motor Liner, Engine-rooms (Main and Auxiliary), Machinery, Gear, Pumps, 579, 614, 634, 640 (*Two-page Supplement, December 4th*, 1925)

H

HACKWORTH, Timothy, and Shildon, 634
Hell Gate Power Station, New York, Boiler Equipment at, John B. C. Kershaw, 670, 674, 675
Henley's, W. T., Telegraph Works Company, Ltd., Inductances for Rugby Wireless Station, 500
Herbert, Alfred, Ltd., Auto-Lathe, 384
Herbert, Alfred, Ltd., Pulverised Fuel Plant for Boiler Firing in a Paper Mill, 292
Herbert Spiral Bevel Gear Planing Machine, 112
Hewittic Electric Company, Rectifiers, 85, 107, 138
Hoffmann Manufacturing Company, Ltd., Self-aligning Bearing, 411
Holcroft, H., Locomotive Coal Trials on the Southern Railway, 658
"Horatio Allen" Locomotive, Boiler and Fire-box, Delaware and Hudson Railroad, 370, 378
Houlder Line Motor Refrigerator Ship Upwey Grange, Fairfield Shipbuilding and Engineering Company, Ltd., 678
Hunslet Engine Company, Ltd., Model for Locomotive Valve Gear, 140
Hydautomat, Ltd., Hydro-pneumatic Pumping Plants, 413, 414

J

JOHNSON and Phillips Telegraph Factory, 1875, 43
Joy's Gas-operated Suction Cleaning Pump, 462

K

KARRIER Motors, Ltd., Fuel Oil Wagon, 486, 487
Karrier Six-wheel Four-drive Chassis, 512, 513
Kawarau River, New Zealand, Damming the, 356
Kent Construction and Engineering Company, Ltd., 10 H.P. "Planet" Petrol Locomotive, 586, 587
Kershaw, John B. C., on Air Pollution from the Engineer's Standpoint, 168
Kershaw, John B. C., Boiler Equipment at the Hell Gate Power Station, 670, 674, 675
Kopcke Sand Drag in Waterloo Tunnel, 511

L

LACRE Motor Car Company, Ltd., "Gravity Type" Tipping Motor Wagon, 582, 588
Lake Truzzo Hydro-electric Works, 180
Lea Recorder Company's Machine for Automatic Measurement of Grain, 472
Leyland Motors, Ltd., Fifty-two-seater Omnibus, 487, 488
Lister, R. A., and Co., Ltd., Portable Petrol Engine, 60
Lloyd Sabaudo Liner Conte Biancamano, Wm. Beardmore and Co., Ltd., 496, 517, 520

M

McEWEN-RUNGE Low-temperature Coal Carbonisation System, 249
McLaren, J. and H., Ltd., 60 B.H.P. Motor Windlass for Cable Ploughing, 60
McLaren's Ploughing Engine, 643
Mann, Egerton and Co., Ltd., Breakdown Garage Truck and Repair Ramp, 439
Marco, Ltd., Combined Grinder and Screen, 461
Marshall, Sons and Co., Deep Well Pumping Plant, 296, 302
Marshall's 8-Ton Portable Asphalt Mixing Plant, 700
Marshall, Sons and Co., Ltd., 9-Ton "Universal" Road Roller, 60
Martin Cultivator Company, Ltd., Motor Fire Engine and 250–300 Gallon Pump, 62
Mather and Platt, Ltd., Turbine Pumps for Hydraulic Power Supply, 354
Maudslay Thirty-seater Saloon Coach, 487
Mélot Propulseur Trompe, 301
Metropolitan-Vickers 1500 B.H.P. Geared Turbine, 374
Metropolitan-Vickers Electrical Company, Ltd., Supervisory Control Equipment for Automatic Sub-stations, 412
Millars' Machinery Company, Ltd., 8–10-Ton-per-hour Asphalt Plant, 635
Muir, Wm., and Co., Ltd., Sprocket Wheel Generating Machine, 644
Muscle Shoals—*see* Wilson Dam

N

NATIONAL Gas Engine Company, 5-Volt Petrol or Paraffin Vertical Engine Coupled (1) to Generator, (2) Wallwin Pump, 34, 35
Nelson, H.M. Battleship, Launch of, 266
Newcomen Society Summer Meeting, Scowles Iron Ore Workings, 18
New Zealand, Hydraulic Turbines for, 223
Niagara Falls, Projectors for Illuminating, 124

O

OLYMPIA, Commercial Vehicle Show, 457
Orcutt, H. F. L., Ground Gears, Involute Gear Tooth Model, 585, 589, 590, 618
Osborne Adelaide Electric Generating Station, 133, 142, 158, 166
Owen's Dust Counter and Case, 169

P

PACIFIC Railway of Colombia Eight-coupled Locomotive, 224
Palestine Hydro-electric Scheme, 301
Parkeston, Harwich–Esbjerg Motor Mail Ship, 170, 190, 194
Parsons Motor Company, Ltd., Six-cylinder Engine for Generator Set, 72
Parsons–Westinghouse 50,000-Kilowatt Cross-compound Turbo-generator, 670, 674
Perring, W. G. A., Some Factors Regarding the Resistance of Ships in Waves, 687
Platt Brothers and Co., Ltd., Ring Spinning Frame and C.S.L. Flexible Roller, 410, 411
Poultney, E. C., Two Remarkable Locomotives, 370, 378, 439
Powell Duffryn Steam Coal Company, Colliery Compressed Air Transmission Scheme, 238, 242, 261, 268
Power Plant Company's Reduction Gears for French Flotilla Leaders, 499
Premier Electric Welding Company, Ltd., Portable Electric Arc-welding Plant, 550
Primero, Motor Cargo Ship, Burmeister and Wain, 293
Prosser Locomotives, 511
Public Works, Roads and Transport Exhibition, 582, 586
Pulsometer Engineering Company, Stuffing-box for Centrifugal Pumps, 386

R

RANSOME, A., and Co., Ltd., Band Saw and a Planing Machine, 304
Ransome Machinery Company (1920), Ltd., Concrete Mixers, "Featherweight" and "Welterweight," with Boom Attachment, 586
Reavell and Co., Ltd., Portable Air Compressor for Tramway Repairs, also Compressor Set on a "Fordson" Tractor, 635, 636
Redfern, Francis, British Glass Bottle-making Machine, 395 (*Two-page Supplement, October 16th*, 1925)
Rees Roturbo Manufacturing Company, Ltd., Pumps for Drainage Plant, 562
Renold, Hans, Ltd., Chain Drive, 374
Rhymney Valley—*see* Powell Duffryn

Ritchie, N. C., Ltd., Cardboard Box Machine, 94
Roadways Equipment, Ltd., Portable Asphalt Macadam Plant, also "Road Toaster," 638
Robertson, W. H. A., and Co., Ltd., High-speed Strip-rolling Mill, 688
Robey and Co., Ltd., 3-Ton "Clear-side" Tandem Road Roller, and Three-way Steam Tipping Wagon, 582, 588
Royal Agricultural Society's Show at Chester, 34, 60
Rugby Wireless Station, 82 (*Two-page Supplement, July 24th*, 1925)
Ruston and Hornsby, Ltd., 20–22 B.H.P. Portable Oil Engine, 582, 588
Ruston and Hornsby 50 B.H.P. Oil Engine and 24 B.H.P. Petrol-paraffin Engine, 34
Ruston and Hornsby, Ltd., and British Thomson-Houston Company, Ltd., Electrically Operated Navvy, 488, 489, 525

S

SANKEY, Captain M. P. H. Riall (Portrait), 381
Savage, H. D., Water-cooled Furnace Walls, 121
Savonius, Engineer-Captain Sigurd J., Wing Rotor, 193
Scammell Radial-engined "Autovan," 514, 515
Scapa Flow Salvage Operations, 248
Schneider Hydro-mechanical Transmission Gear, 86, 90
Scottish Colliery, Hydro-electric Installation for, 492, 497
Sennar Dam on the Blue Nile, 16, 17 (*Two-page Supplement, July 3rd*, 1925)
Sentinel Wagon Works, Ltd., Six-wheeled Pig Wagon, 35
Shipping, Engineering · · · Exhibition—*see* Separate Index Section, Olympia, &c.
Simms Motor Units, Ltd., "Superflex" Shaft Coupling, 439
Smith, Barker and Willson, Ltd., High-speed Lathe, 171
Smith Brothers and Co., Ltd., 66ft. Plate Edge Planing Machine, 700
Smithfield Club Show, 643
South Foreland Revolving Aerial for Wireless Beam Signalling, 273, 274
Southern Railway Express Passenger Engine, 329
Southern Railway, New Electric Stock, 44
Stockton and Darlington Railway Centenary, 42
Stephenson's Locomotion Drawing Replica of Original Train, 42
Engine Built at Hetton by George Stephenson and Nicholas Wood in 1822, 42
Stothert and Pitt, Ltd., 10-Ton Per Hour Asphalt and Bituminous Macadam Plant, 616, 617
Stothert and Pitt, Ltd., 50-Ton Titan Steam Crane, 552, 561
Stream-Line Filter Company, Ltd., Filter for Lubricating Oil, 348
Stromeyer, C. E., Experiments on Strains in Boilers, 649
Stubbs, Joseph, Ltd., High-speed Pirn Winder and Metal Swift, 410
Sudan Government Railways, "Prairie" Type Locomotives, 246, 247 (*Two-page Supplement, September 4th*, 1925)
Sunbeam Six and Eight-cylinder Motor Car Engines, 438
Sunderland, New Graving Dock at, 111
Swedish-American Motor Liner Gripsholm, Sir W. G. Armstrong, Whitworth and Co., Ltd., 579, 614, 634 (*Two-page Supplement, December 4th*, 1925)

T

TATHAM, William, Ltd., Automatic Feeding Machine, 375
"Termaco" Roving Bobbin Cleaner, Terrell Machine Company, 375
Textile Machinery Exhibition, 374
Thornhill Power Station of Yorkshire Electric Power Company, 32
Thornycroft, J. I., and Co., Ltd., Coastal Motor Boat for Sweden, 320
Thornycroft Four-wheel Drive Motor Tractor and Six-cylinder 100 H.P. "GB/6" Engine, 485, 486 (*Two-page Supplement, November 6th*, 1925)
Thornycroft, J. I., and Co., Ltd., Shallow-draught Twin-screw Steamer Fushun, 274
Trewhella Brothers, Man-power Stump Puller, 643

U

"UNAX" Combined Rotary Cement Kiln and Clinker Cooler, 124
Upwey Grange, Motor Refrigerating Ship, 678

V

VANDERVELL, C. A., and Co., Ltd., "Helicoid" Starter Gear, 459
Vaughan Crane Company, Ltd., Underhung Travelling Jib Crane for Kilindini, 648
Vauxhall 25–70 H.P. Chassis and Single-sleeve Valve 25–70 H.P. Engine, 403
Vickers Ltd., Dabeg Feed Pump, 20

W

WALLIS and Steevens, Ltd., Scarifier Attachment for Road Roller, 636
Watt's Workshop at Heathfield, Birmingham, 114
Whipp and Bourne Switchboard for Liner Gripsholm, 634, 640
Whitehead, H. C., Sewage Disposal, Arrangement of Works and Purification Plant, 540
Willison Automatic Coupler on Indian Rolling Stock, 694
Wilson Dam at Muscle Shoals on the Tennessee River, Alabama, 8, 9, 12, 29, 38, 68, 82
Wolseley Four-speed Gear-box, Four-cylinder AC 8 and E 4 Engines, 402, 403
Woodruff, Bernard J., Stereo-Photo-Grammetric Surveying, 454, 481, 515
Worthington-SimpsonTurbine Bore-hole Pump, 296, 303

Y

YORKSHIRE Patent Steam Tipping Wagon, 486, 487
Yorkshire Patent Steam Wagon Company, Self-propelling Gully Emptier, 61
Young, Osmond and Young, Ltd., Electrical Windmill Plant, 60

Z

ZANDOV Ironworks Company, Souczek Loom Shuttle Operating Mechanism, 375
Zeiss, Carl, Photo-Theodolite, 454, 455

Subjects.

See also Separate Section, Olympia Shipbuilding, Engineering and Machinery Exhibition.

A

AERONAUTICS:

Autogiro Flying Machine, Don Juan de la Cierva, 430
Flying Boat, "Southampton" Type, "Taxying" on the Water, 399, 406
Supermarine Napier S 4 Monoplane, 399, 406
AIR COMPRESSOR, 6500 Cubic Feet Electrically Driven, 239, 242, 261, 268
Air Compressor, Portable, for Tramway Repairs; also Compressor on "Fordson" Tractor, Reavell and Co., Ltd., 635, 636
Air Pollution, John B. C. Kershaw, 169
Asphalt or Bituminous Macadam Mixing Plant, Marshall, Sons and Co., 700
Asphalt and Bituminous Macadam Plant, 10-Ton per Hour, Stothert and Pitt, Ltd., 616, 617
Asphalt Macadam Plant, Portable: "Road Toaster," Roadways Equipment, Ltd., 638
Asphalt Mixing Plant, Davey, Paxman and Co., Ltd., 528: (Correction), 656
Asphalt Plant, 8–10-Ton per Hour, Millars' Machinery Company, Ltd., 635

B

BAND Saw and a Planing Machine, A. Ransome and Co., Ltd., 304
Bearing, Self-aligning, Hoffmann Manufacturing Co., Ltd., 411
Bearings, Plain e. Roller, for Tramcars, 701
Bedford Engineering Company, 15-Ton Electric Gantry Crane, 443
Bituminous Macadam—*see* Asphalt
Bobbin Cleaner, "Termaco" Roving, Terrell Machine Company, 375
Boiler Equipment at the Hell Gate Power Station, J. B. C. Kershaw, 670, 674, 675
Boiler, Oil-fired, "Beardmore-Blake," Test of, 224
Boilers—*see also* Separate Section, Olympia Exhibition
Boilers, Experiments on Strains in, C. E. Stromeyer, 649
Bottle Making—*see* British
Bridge, Road Erecting, Over the Mahaweli Ganga, Ceylon, 57, 64
Bridges, Old and New, Over the Mahaweli Ganga, 57, 64
British Bottle Making Machine, Francis Rodfern, 395 (*Two-page Supplement, October 16th*, 1925)

C

CANAL de Castilla, Spain, 340
Cardboard Box Machine, M. C. Ritchie, Ltd., 94
Cement Kiln, Combined Rotary, and Clinker Cooler, F. L. Smidth and Co., Ltd., 124
Chain Drive, Hans Renold, Ltd., 374
Coal Carbonisation System, Low Temperature, McEwen-Runge, 249
Colliery Compressed Air Transmission Scheme, Powell Duffryn Steam Coal Company, 238, 242, 261, 268
Concrete Mixers: "Featherweight" and "Welterweight" with Boom Attachment, Ransome Machinery Company (1920), Ltd., 586
Concrete Piles, "Zenith" Vibro, Formation of, British Steel Piling Company, Ltd., 636
Conveyors, Newspaper, in American Offices, 610, 619
Crane Calculations, Diagram for, Edward G. Fiegehen, 600
Crane, 15-Ton Electric Gantry, for India, Bedford Engineering Company, 443
Crane, 4-Ton Electric Wharf for Durban, Alex. Chaplin and Co., Ltd., 276, 277
Crane, 50-Ton Titan Steam, Stothert and Pitt, Ltd., 552, 561
Crane, Underhung Travelling Jib, for Kilindini, Vaughan Crane Company, Ltd., 648
Cranes—*see also* Separate Section, Olympia Exhibition
Cupola Design, Notes on, 144

D

DAM Disaster in Wales, 496
Dam, Sennar, on the Blue Nile, 16, 17 (*Two-page Supplement, July 3rd*, 1925)
Dam, Wilson, at Muscle Shoals, Alabama, 8, 9, 12, 29, 38, 68, 82
Damming the Kawarau River, New Zealand, 356
Diesel-electric Cars—*see* Railways
Diesel Engines—*see* Engines
Dock, New Graving, at Sunderland, 111
Drainage Plants Driven by Internal Combustion Engines, 562
Drilling Machines—*see* Machine Tools

E

ELECTRICAL MATTERS:

Arc Welding Plant, Portable Electric, Premier Electric Welding Company, Ltd., 550
Auto Transformer Starter, British Thomson-Houston Company, Ltd., 411
British Thomson-Houston 5000-Kilowatt Turbo-alternator, 136, 142
Bruce Peebles-La Cour 500-Kilowatt Motor Converter, 136, 137
Diesel Engines and Hydro-electric Stations, Alfred Büchi, 120, 146
Excavator, Large, Electrical Equipment for, British Thomson-Houston Company, Ltd., 488, 489, 525
Four-cylinder Generator Units for Canadian Diesel-electric Rail Cars, Wm. Beardmore and Co., Ltd., 345
Generating Set, 634; and Switchboard Gallery for Swedish Liner Gripsholm, 634, 640
Generator, 26,000-Kilowatt Electric, General Electric Company, Schenectady, 69, 70
High Vacuum Mercury Pump for Rectifier, 139, 162
Locomotives, Electric—*see* Locomotives, *also* Railway Locomotives
Metropolitan-Vickers' 5000-Kilowatt and 10,000-Kilowatt Turbo-alternators, 136, 142
Motors, 2600 H.P. Three-phase Alternating-current, and Rotor for a Paper Pulp Mill, 95
Motors, 400 B.H.P. Vertical-spindle, for Pump Driving, Crompton and Co., Ltd., 96
Old-established Electrical Works, Johnson and Phillips, 43
Osborne Adelaide Electric Generating Station, 133, 142, 158, 166
Parsons-Bruce Peebles 500 Kilowatt Turbo-generator, 136, 137
Parsons 35-Kilowatt Motor and Brush Alternator, 72
Power-house with Turbines and Generators at Muscle Shoals, Alabama, 8, 9, 12, 29, 38, 68, 82
Projectors for Illuminating Niagara Falls, 124
Pumps—*see* Pumps
Railways, Electric—*see* Railways
Rectifiers, 84, 107, 138, 161, 185, 220, 233, 264, 287, 318, 346, 368
Southern Railway New Electric Stock, 44
Supervisory Control Equipment for Automatic Sub stations: Control Desk, Cabinet, Low-tension Alternating-current Panels, High-tension Switchgear with Circuit Breaker, High-speed Direct-current Circuit Breaker, Metropolitan-Vickers Electrical Company, Ltd., 412, 413
Switch and Circuit Breaker Building, Muscle Shoals Power Plant, 82, 83—*see also* Power House
Thornhill Power Station Generating Plant, British Thomson-Houston Company, Ltd., 32
Transformer Stations, Croydon and Norwood, (Adelaide), and Equipments, 133, 158, 166
Turbo-generator, 50,000-Kilowatt Cross-compound, Parsons-Westinghouse, 670, 674

ENGINES AND MOTORS:

Beardmore, William, and Co., Ltd., All-steel Quick-running Oil Engine, 344
700 B.H.P. Four-cylinder Diesel Engine for Air Compressor Set for Motor Liner Gripsholm, 635
Diesel Engines and Hydro-electric Power Stations, Alfred Büchi, 120, 146
Double-acting Four-cycle Marine Oil Engines for the Motor Liner Gripsholm, Burmeister and Wain, 579, 614, 634, 640 (*Two-page Supplement, December 4th*, 1925)
Internal Combustion Horizontal Twin Engines for Drainage Plants, Campbell Gas Engine Company, Ltd., 562

Motor Car Engines at Olympia:

Armstrong-Siddeley 18 H.P. Six-cylinder Motor Car Engine, 383
"Big Bentley" Six-cylinder Motor Car Engine and Four-cylinder Three-litre, Speed Model, Bentley Engine, 382, 383
Crossley 18/50 H.P. Six-cylinder Engine, 383
Sunbeam 3-Litre Six-cylinder Engine, 438
Sunbeam Vertical Eight-cylinder Engine, 438
Vauxhall Single-Sleeve-Valve 25–70 H.P. Engine, 403
Wolseley Four-cylinder A C 8 Engine and E 4 Engine, 402

Motor Commercial Vehicle Engines:

Michell Crankless Engine, Crankless Engines, Ltd., 487
Scammell "Autovan" Radial Engine, 514, 515
Six-cylinder 100 H.P. "G B/6" Motor Tractor Engine, John I. Thornycroft and Co., Ltd., 485, 486 (*Two-page Supplement, November 6th*, 1925)
Oil Engine Generator Set, Parsons Motor and Brush Alternator, 72
Oil Engine, 150 H.P., Marshall, Sons and Co., Ltd., 296, 302
Oil Engine, 50 B.H.P., and Petrol-paraffin Engine, 24 B.H.P., Ruston and Hornsby, Ltd., 34
Parkeston, Motor Ship, Four-stroke, Single-acting Engines, New Type, 170, 190, 194

ENGINES AND MOTORS (*continued*):

Petrol or Paraffin 5 V Engine, National Gas Engine Company, Ltd., 34, 35
Portable Oil Engine, 20–22 B.H.P., Ruston and Hornsby, Ltd., 582, 588
Portable Petrol Engine, R. A. Lister and Co., Ltd., 60
Steam Pumping Engine of 1866, 296, 302
EXCAVATOR, Large Electrically Operated, Ruston and Hornsby, Ltd., and British Thomson-Houston Company, Ltd., 488, 489, 525

EXHIBITIONS:

Commercial Vehicle Show, 457, 485, 512 (*Two-page Supplement, November 6th*, 1925)
Motor Show, 382, 402, 438
Olympia Exhibition—*see* Separate Index Section, Olympia, &c.
Public Works, Roads and Transport Exhibition, 582 586, 616, 635, 675
Royal Agricultural Society's Show at Chester, 34, 60
Shipbuilding, Engineering and Machinery Exhibition—*see* Olympia
Smithfield Club Show, 643
Textile Machinery Exhibition, 374, 410
EXPANSION Curves, 339

F

FEED PUMPS—*see* Pumps
Feeding Machine, Automatic, William Tatham, Ltd., 375
Filter, Stream-line, for Lubricating Oil, Stream-Line Filter Company, Ltd., 348
Fire Engine and 250–300-Gallon Pump, Martin Cultivator Company, Ltd., 62
Flume, Semi-circular Metal, 326
Flying Boat—*see* Aeronautics
Fuel Injection Arrangements, Blackstone, 34

G

GEARS, Ground, Involute Gear Tooth Model, H. F. L. Orcutt, 585, 589, 590, 618
Generating Machine, Sprocket Wheel, Wm. Muir and Co., Ltd., 644
Grain, Automatic Measurement of, Machine, Lea Recorder Company, Ltd., 472
Grinder and Screen, Combined, Marco, Ltd., 461
Gully-emptier, Self-propelling, Yorkshire Patent Steam Wagon Company, 61

H

HIGH-SPEED Strip Rolling Mill, W. H. A. Robertson and Co., Ltd., 688
Hydraulic Turbines for New Zealand, Gilbert Gilkes and Co., Ltd., 223
Hydro-electric Development at the Muscle Shoals, Alabama, 8, 9, 12, 29, 38, 68, 82
Hydro-electric Installation for Scottish Colliery, James Gordon and Co., Ltd., 492, 497
Hydro-electric Scheme for Palestine, 301
Hydro-electric Stations, Diesel Engines and, Alfred Büchi, 120, 146
Hydro-electric Works, Lake Truzzo, 180
Hydro-mechanical Transmission Gear, H. Schneider, Swiss Locomotive and Machine Works, 86, 90
Hydro-pneumatic Pumping Plants, Intermittent Hydrautomat, Continuous Hydrautomat, Vacuum Hydrautomat, Hydrautomat, Ltd., 413, 414

INDUCTANCES—*see* Wireless
Internal Combustion Engines—*see* Engines
Irrigation Scheme, The Gezira, 211, 216

J

JOINTS for Pipe Lines, Stewart Long-sleeved Joint; Williams Loose-flange Joint, 262

L

LATHES—*see* Machine Tools

LOCOMOTIVES:

British Steam Railway Locomotive from 1825 to 1924. E. L. Ahrons, 2, 28, 54, 80, 104, 132, 156, 180, 206, 232, 258, 284, 312, 338, 366, 394, 422, 452, 480, 508, 538, 570, 598, 628; (Letters), 36, 88, 123, 140, 172, 173, 198, 199, 210, 237, 275, 294, 317, 376, 400, 429, 469, 470, 580, 668; (Erratum), 481
Period 1870–1875 (continued), 2, 28
Period 1876–1881, 28, 54, 80
Period 1882–1889, Compound Locomotives, 156, 180, 206, 232; Non-compound Locomotives, 258, 284, 312
Period 1890–1900, 338, 366, 394 (Details, 422), 452
Period 1901–1914, 480, 508, 538, 570
Period 1914–1924, 598 (Details, 628)
Articulated, Steep Gradient and Miscellaneous Locomotives, 452
Curves of Crank Effort, 810
Details: Radial Axle-boxes, Valves and Valve Gear, 81; Boilers, 82; Bottomley's Radial Axle-box, 81; Webb's Circular Slide Valve, 81; Webb's Radial Axle-box, 81
Engines for Ireland and Overseas, 1870–1879, 132
Locomotive Details, 1901–1914, 570
Locomotive Tenders, 628
Train Resistances and Locomotive Performances, 1855 to 1879, 104; Details, 422, 628

LOCOMOTIVES (*continued*):

British Steam Railway Locomotive from 1825 to 1924 (*continued*):

Two-cylinder High-pressure Engines, 1890–1900, 366

Locomotives Illustrated.

Adams' London and South Western Engine, 1880, 55
Barry Railway Tank Engine, 1897, 395
Caledonian Engine, 1877, 55
Caledonian Engine, "766" Class, 1897, 367
Caledonian Goods Engine, 1874–7, 3
Caledonian Six-coupled Passenger Tank Engine, 1917, 599
Compound Tank Engine, Beyer, Peacock, 394
Drummond's North British Engine, 1876–8, 54
Engine by Beyer, Peacock and Co., 1879, 132
Engine for Dutch State Railways, Beyer, Peacock, 1880–1895, 132
Engine for Natal, Kitson and Co., 1879, 132
Engine for the Rajputana-Malwa Railway, Dübs, 1880, 133
Fairlie Engine, Yorkshire Engine Company, 1872, 452
Furness Six-coupled Passenger Tank Engine, 1920, 599
Garratt Passenger Engine, Beyer, Peacock and Co., 453
Glasgow and South-Western Goods Engine, 1915, 539
Glasgow and South-Western Railway Engine, 1879–1880, 29
Glasgow and South-Western Locomotive, 1888–9, 284
Glasgow and South-Western Locomotive, 1911, 510
Goods Engine for Mersey Railway, Beyer, Peacock, 1885, 313
Goods Engine for Mersey Railway, Beyer, Peacock, 1887, 313
Great Central Locomotive, "Director" Class, 1913, 508
Great Central Tank Engine, 1914–1923, 539
Great Eastern Compound Engine, T. W. Worsdell, 1884, 206
Great Eastern Railway Express Engine, 1879–82, 29
Great Eastern Goods Engine, 1879, 81
Great Eastern Goods Engine, 1882, 312
Great Eastern Tank Engine, 1893, 394
Great Northern Engine, 1898, 394
Great Northern Engine, 1900–1, 367
Great Northern (Ireland) Six-coupled Goods Engine, 1921, 598
Great Southern and Western Engine, 1876, 132
Great Western Railway Bogie Express Engine, 1877, 29
Great Western Broad-gauge Compound, 233
Great Western Railway Express Engine, 1878–1879, 29
Great Western Engine, 1885, 285
Great Western Engine, 1887, 285
Great Western Engine, 1897–9, 367
Great Western Goods Engine, 1871, 3
Great Western Goods Engine, 1882–1884, 312
Great Western Goods Engine, 1885–6, 312
Great Western Goods Engine, 1901–1903, 539
Great Western Locomotive, 1889, 259
Great Western Locomotive, 1894–9, 366
Great Western Railway 4–6–0 Engine, 1899, 395
Great Western Locomotive, "City" Class, 1903, 508
Great Western Locomotive, "County" Class, 1904, 508
Great Western Railway Trailing Axle, 285
Holden's Decapod, 1902, 538
Indian State Railways Class "F" Engine, Vulcan, 133
Indian State Railways Class "O" Engine, 1880, 133
Johnson's Midland Engine, 1877, 54
Kitson-Meyer Rack Locomotive, Transandine Railway, 452
Lancashire and Yorkshire Engine, 1878–86, 55
Lancashire and Yorkshire Engine, 1891–4, 367
Lancashire and Yorkshire Engine, 1899, 394
Lancashire and Yorkshire Tank Engine, 1881, 80
Lancashire and Yorkshire Tank Engine, 1908, 540
London, Brighton and South Coast Locomotive, 1882–1891, 284
London, Brighton and South Coast Railway "Terrier," 1872–1880, 2
London, Midland and Scottish Eight-coupled Goods Engine, 1923, 598
London and North-Western Railway Coal Engine, 1873–1892, 3
London and North-Western Compound, 1882–3, 156
London and North-Western Compound, 1882–3, Section, 156
London and North-Western Compound, 1884, 206
London and North-Western Compounds, 1887, 206
London and North-Western "Dreadnought" Class, 1884–8, 157
London and North-Western Goods Engine, 1880, 80
London and North-Western Shunting Engine, 1880–2, 81
London and North-Western "Teutonic" Class, 1889–90, 157
London and South-Western Engine, 1882–5, 286
London and South-Western Railway, 1892–3, 366
Mallet Compound Locomotive, North British Locomotive Company, Ltd., South African Railways, 452
Manchester, Sheffield and Lincolnshire Heavy Goods Engine, 1880–5, 80
Manchester, Sheffield and Lincolnshire Locomotive, 1882–3, 258
Manchester, Sheffield and Lincolnshire Locomotive, 1887, 259
Metre-gauge Engine for India, 1872, 133

LOCOMOTIVES (*continued*):

British Steam Railway Locomotive from 1825 to 1924 (*continued*):

Locomotives Illustrated (*continued*).

Metre-gauge Engine for India, Dübs, 1872, 132
Midland Engine, 1889, 259
Midland Goods Engine, 1869–1873, 2
Midland Express Engine, 1880–81, 29
Midland Railway Three-cylinder Compound, 480
Midland Ten-coupled Goods Engine, 1919, 597
Nesbit's Four-cylinder Tandem Compound Engine, 232
North British Locomotive, 1906–1911, 510
North-Eastern Compound Engine, 1887, 206
North-Eastern Compound Engine, 1888, 206
North-Eastern Compound Engine, 1889, 207
North-Eastern Locomotive, 1885, 258
North-Eastern Railway "2111" Class, 1900–1, 394
North London Goods Engine, 1879–1894, 312
Sacré's Manchester, Sheffield and Lincolnshire Engine, 1877–80, 54
Sharp, Stewart's London, Tilbury and Southend Engine, 1880, 55
Single Fairlie Engine, 1878, 81
Stephenson's, J. F., Coupling Rod Joint, 28
Stroudley's Goods Engine, 1873, 2
Taff Vale Engine, 1888, 286
Webb's Tank Engine, 1880–1890, 56

ELECTRIC Locomotives for Main Lines in Austria and France, 183, 185, 343, 424, 425, 426
15in. Gauge Express Locomotive, Davey, Paxman and Co., Ltd., 70, (Paragraph), 115
Locomotive Boiler Feed System, A New, Vickers Ltd., 20
Locomotive Coal Trials on the Southern Railway, H. Holcroft, 658
London and North-Eastern Railway Goods Engine, Dabeg Feed Pump on, 20
Pacific Railway of Colombia Eight-coupled Locomotive, 224
Paris-Orleans Railway, Electric Locomotives, 343
Petrol Locomotive, 40–50 H.P., for Oil Refinery, Drewry Car Company, 10
"Planet" Petrol 10 H.P. Locomotive, Kent Construction and Engineering Company, Ltd., 586, 587
Prosser Locomotives with Flangeless Driving Wheels and Angular Guide Wheels, 511
Southern Railway Express Passenger Engine, 329

Stockton and Darlington Centenary:

Engine Built at Hetton by George Stephenson and Nicholas Wood in 1822, 42
Stephenson's "Locomotion" Drawing Replica of Original Train, 42

SUDAN Government Railways, "Prairie" Type Locomotives, 246, 247 (*Two-page Supplement, September 4th*, 1925)
Two Remarkable Locomotives, E. C. Poultney, 370, 378, 439
Delaware and Hudson Railroad, Boiler and Fire-box of Horatio Allen, 370, 378
Luma Locomotive Works Eight-coupled Locomotive A 1, Superheater, Cylinders and Saddle, Coupling Rod Arrangement, Four-wheeled Truck, 439–441
Locomotive Valve Gear, Model for, Hunslet Engine Company, Ltd., 140

LOOM, Dr. Carver, Carver Textile Patents, Ltd., 374
Lorry, 6-Ton Steam, Fodens, Ltd., 644

M

MACHINE TOOLS:

Auto Lathe, Alfred Herbert, Ltd., 384
High-speed Lathe, Smith, Barker and Willson, Ltd., 171
Hydraulic Flanging Press, Large, Fielding and Platt, Ltd., 468, 469
Lathe, Duplex Wheel Centre, Joshua Buckton and Co., Ltd., 330
66ft. Plate Edge Planing Machine, Smith Brothers and Co., Ltd., 700
Radial Drilling Machine, Drummond Brothers, Ltd., 384
Rath Spiral Bevel Gear Planing Machine, Alfred Herbert, Ltd., 112

MACHINERY, Auxiliary, Boilers, Air Compressor, Generating Set, Gear, &c., for the Swedish Liner Gripsholm, 579, 614, 634, 640 (*Two-page Supplement, December 4th*, 1925)

MAPS:

Austria, Electrified Lines in, 182
Canal de Castilla, Spain, Three Branches of, 340
France, Maps showing Electrical Railways, 341, 343, 423, 425
Llyn Eigau, Dam Disaster in Wales, 496
Metropolitan Line, Route of Proposed New, 677

MARINE Engines—*see* Engines
Mechanical Couplers—*see* Railways
Modern Foundry Practice, Some Applications of Research to, J. E. Fletcher, 667, 703
Mole-draining Machine and Tile Drain Ramming Machine, John Fowler and Co., Ltd., 61

MOTOR CARS, CHASSIS, GARAGE EQUIPMENT, GEAR-BOXES, &c.:

Four-cylinder 3-Litre Chassis, Bentley Motors, Ltd., 383
18/50 H.P. Six-cylinder Chassis, Crossley Brothers, Ltd., 383, 384
Daimler 16–55 H.P. Chassis, 404
Six-cylinder Chassis, Darracq, 438
Vauxhall 25–70 H.P. Chassis, 403

MOTOR CARS, CHASSIS, GARAGE EQUIPMENT, GEAR-BOXES, &c. (*continued*):

Breakdown Truck and Repair Ramp, Mann, Egerton and Co., Ltd., 439
Motor Car Engines—*see* Engines
Motor Car Power Transmission:
Starter Gear, "Helicoid," C. A. Vandervell and Co., Ltd., 439
"Superflex" Shaft Coupling, Simms Motor Units, Ltd., 439
Wolseley Four-speed Gear-box, 402, 403

MOTOR COMMERCIAL VEHICLES AND ACCESSORIES:

Atkinson Uniflow Steam Wagon and Boiler for, 513, 514
Crossley–Kegresse 25–30 H.P. Chassis, 459
"Garrett" 2-Ton Electric Chassis, 459
Karrier Six-wheel Four-drive Chassis, for Fifty-seater Body, 512, 513
Lancia "Pentaiota" Chassis, Curtis Automobile Company, Ltd., 457
Omnibus Chassis, Sixty-seater, Bristol Tramways and Carriage Company, Ltd., 460
Omnibus, Thirty-seater, Albion Motor Car Company, Ltd., 460
Omnibus, Fifty-seater, "Leviathan," Leyland Motors, Ltd., 487, 488
"Ramillies" Motor Omnibus Chassis, Associated Equipment Company, Ltd., 457, 458, 459
Saloon Coach Maudslay Thirty-seater, 487
Scammell "Autovan" Radial-engined Lorry, 514, 515
Tractor, Thornycroft Four-wheel Drive, Six-cylinder, 485, 486 (*Two-page Supplement, November 6th*, 1925)
Tractor, Three-speed Austin, 512
Wagon, Fuel Oil, Petrol-driven, Karrier Motors, Ltd., 486, 487
Wagon, Steam Tipping, Yorkshire Patent Steam Wagon Company, 486, 487

MOULDS, Permanent, for Cast Iron, 326
Mowing Machine, Knife-operating Mechanism, Blackstone and Co., Ltd., 61

N

NEWSPAPER Conveyors, 610, 619

O

OIL Engines—*see* Engines
Oil Fuel Burner, A New, Filma Oil Burners, Ltd., 304
Omnibus, Electric Trolley, R. Garrett and Sons, Ltd., 196; (Correction), 256
Omnibus—*see also* Motor Commercial Vehicles

P

PETROL Ploughing Engine, McLaren, 643
Photo Theodolite, Carl Zeiss, 455; Triangulation Signal, 482
Piles, "Vibro," Formation of, British Steel Piling Company, Ltd., 636
Pipe Line Construction for Rhymney Valley Collieries, 262, 268
Pipe, Reinforced Concrete, Drac-Romanche Water Power Undertaking, 692, 696
Pirn Winder and Metal Swift, Joseph Stubbs, Ltd., 410
Planing Machines—*see* Machine Tools
Pliers for Making Hose Joints, Sir W. G. Armstrong, Whitworth and Co., Ltd., 636
Portrait, Captain H. Riall Sankey, 381
Propulseur Trompe for Aeroplanes, M. H. F. Mélot, 301
Pulverised Fuel for Boiler Firing in a Paper Mill, Alfred Herbert, Ltd., 292

PUMPS:

Dabeg Feed Pump, Vickers Ltd., 20
Deep Well Pumping Plant at Gainsborough, Marshall, Sons and Co., Worthington-Simpson Bore-hole Pump, 296, 302
Drainage Plant Pumps, Rees Roturbo Manufacturing Company, Ltd., 562
Hydro-pneumatic Pumping Plants, Hydrautomat, Ltd., 413, 414
Main Engine and Service Pumps (Fuel, Lubricating Oil, Fresh Water) for the Swedish Liner Gripsholm, 579, 614, 634, 640 (*Two-page Supplement, December 4th*, 1925)
Motor-driven Pump, Boulton and Paul, 643
Pump for Motor Fire Engine, Martin Cultivator Company, Ltd., 62
Stuffing-box for Pump Impeller Shafts, Pulsometer Engineering Company, 386
Suction Cleaning Pump, Gas-operated, Bertram Joy, 462
Wing Rotor Pumping Unit, Engineer-Captain Sigurd J. Savonius, 193

R

RAIL Cars, Diesel-electric in Canada, 430, 434,
Rails, Malleable Iron, Birkinshaw's Patent, 109

RAILWAY MAIN LINE ELECTRIFICATION:

Sir Philip Dawson and Professor S. Parker Smith, 182, 208, 341, 423
Austria; Arlberg and Vorarlberg Railway, 183
Austria; Tauern; Mittenwald; St. Pölten–Gusswerk Railway, 208, 209
France, 341; Paris–Lyons–Mediterranean Railway, 341, 423; Midi Railway, 425

RAILWAY, Southern New Electric Stock, 44
Railway, Stockton and Darlington, Centenary, 42
Railways, Indian Broad-gauge, Mechanical Couplers for, 694
Rectifiers—*see* Electrical Matters
Reinforcement-placing Machine, Liversedge, John Fowler and Co (Leeds), Ltd., 637
Reservoir, 8,000,000-Gallon, at Bushey Heath, Colne Valley Water Company, 456, 464
Resistance of Ships—*see* Ships
Road Roller, 2-Ton Petrol "Clear-side" Tandem, Robey and Co., Ltd., 582, 588
Road Roller, 9-Ton "Universal" Steam, Marshall, Sons and Co., Ltd., 60, 617, 618
Road Roller, Scarifier Attachment for, Wallis and Steevens, Ltd., 636
Road Toaster, Roadways Equipment, Ltd., 638
Roller, Quick-reverse Water Ballast Motor, Barford and Perkins, Ltd., 587
Rotoscope, A. J. Ashdown, 272

S

SALVAGE Operations at Scapa Flow, Cox and Danks, Ltd., 248
Sand Drag in Waterloo Tunnel, 511
Sand and Oil Trap for Garages, William E. Farrer, Ltd., 587
Scarifier—*see* Road Roller
Scavenger Blower, Steam Turbine-driven, British Thomson-Houston Company, Ltd., 678, 679
Sewage Disposal, Arrangement of Works and Purification Plant, H. C. Whitehead, 540

SHIPS AND SHIPPING MATTERS:

General:

Factors Affecting the Resistance of Ships in Waves, W. G. A. Perring, 686

British Navy:

H.M. Battleship Nelson, 266
H.M.S. Emerald, 580

Foreign Navies:

German Light Cruiser Emden, 549

Miscellaneous Vessels:

Coastal Motor Boat for Sweden, J. I. Thornycroft and Co., Ltd., 320
Conte Biancamano, Lloyd Sabaudo Liner, Wm. Beardmore and Co., Ltd., 496, 517, 520, 542
Fushun, Shallow-draught Twin-screw Steamer for China, J. I. Thornycroft and Co., Ltd., 274
Motor Refrigerator Ship Upwey Grange, Fairfield Shipbuilding and Engineering Company, Ltd., 678
Parkeston, Motor Ship, 170, 190, 194
Primero, Motor Cargo Ship, Burmeister and Wain, 293
Swedish-American Motor Liner Gripsholm, Sir W. G. Armstrong, Whitworth and Co., Ltd., 579, 614, 634, 640 (*Two-page Supplement, December 4th*, 1925)

SHOWS—*see* Exhibitions
Souczek Loom, Shuttle-operating Mechanism, Zandov Ironworks Company, 375
Spinning Frame and Flexible Roller, Platt Bros. and Co., Ltd., 410, 411
Steam Engines—*see* Engines
Steam Generating Sets, 25-Kilowatt, at Littleton Pumping Station, Ashworth and Parker, Ltd., 471
Stereo Comparator, 515
Stereo-Photo-Grammetric Surveying, Bernard J. Woodruff, 454, 481, 515
Stroboscope—*see* Rotoscope
Stump Puller, Man-power, Trewhella Brothers, 643
Superheater Element, Bolton's Superheater and Pipe Works, Ltd., 410
Surveying Instruments, &c.—*see* Stereo

T

TRACTOR, Steam, with Three-speed Gear, Fodens, Ltd., 618
Tractors, Motor—*see* Motor Commercial Vehicles
Trailer, Self-loading and Tipping, International Harvester Company, 35, 36
Transporter, 12-Ton Electric, at Middlesbrough, Cowans, Sheldon and Co., Ltd., 350, 358
Triangulation—*see* Photo Theodolite
Turbine, 1500 B.H.P. Geared, Metropolitan-Vickers, Ltd., 374
Turbine Pumps for Hydraulic Power Supply, Mather and Platt, Ltd., 354
Turbine Wheel, 30,000 H.P., and Speed Ring for, Cramp Ship and Engine Building Company, 69—*see also* Hydro-electric Development at Muscle Shoals
Turbines and Gearing for Lloyd Sabaudo Liner Conte Biancamano, 476, 517, 520, 542, 544
Turbines, Hydraulic, for New Zealand, 223
Turbines and Reduction Gear for French Flotilla Leaders, 499
Turbines and Turbine Governor, Oil Pressure, 492, 497
Turbo-compressors at Bargoed Power-house, 238, 242
Turbo-generator, 20,000-Kilowatt, English Electric Company, 547
Turbo-generators—*see also* Electrical Matters

V

VALVE Gear, Locomotive—*see* Locomotives
Valve, Reducing, for Use with Vacuum Automatic Brake, Gresham and Craven, Ltd., 645
Vibrometer Records of the Vibrations of Buildings, W. P. Digby, 356

W

WAGON, "Gravity Type" Tipping Motor, Lacre Motor Car Company, Ltd., 582, 588
Wagon, Pig, Two-decker Six-wheeled, Sentinel Waggon Works, 35
Wagon, 6-7-Ton Three-way Steam Tipping, Robey and Co., Ltd., 582, 588

Water-cooled Furnace Walls, H. D. Savage, 121
Boiler, 1800 H.P., at Cahokia, 122
Isometric View of Screen at Hell Gate, 122
Steam Generating Unit, Arrangement, 122
Water Power Undertaking, Drac-Romanche, 692, 696
Wheel, "Esco" Simplex, Electric Steel Castings Company, 457
Windlass, Motor, 60 B.H.P., for Cable Ploughing, J. and H. McLaren, 60
Windmill Plant, Electrical, Young, Osmond and Young, Ltd., 60
Wing Rotor, Engineer-Captain Sigurd J. Savonius, 193

WIRELESS TELEGRAPHY:
Broadcasting Station at Daventry, 110, 116
Wireless Apparatus, Automatic Call, Major B. Binyon, 524
Wireless Beam, 273, 274
Wireless Station, Rugby, 82 (*Two-page Supplement, July 24th*, 1925)
Wireless Station, Rugby, Inductances for, W. T. Henley's Telegraph Works Company, Ltd., 500

WORKSHOP, James Watt's, at Heathfield, 114

Workshops, Egyptian Government, Boulac, Cairo, 315, 316, 322

Supplements.

BRITISH Glass Bottle-making Machine (October 16th, 1925)
Four-wheel-drive Motor Tractor, John I. Thornycroft and Co., Ltd. (November 6th, 1925)

SUPPLEMENTS (*continued*):
Motor Liner Gripsholm, 13,500 S.H.P. Double-acting Four-cycle Marine Oil Engines, Burmeister and Wain (December 4th, 1925)
Post Office Wireless Station at Hillmorton, near Rugby (July 24th, 1925)
Sennar Dam on the Blue Nile, Closing the Western Channel (July 3rd, 1925)
Shipping, Engineering and Machinery Exhibition at Olympia (Twenty-page Supplement, November 20th, 1925)
Sudan Government Railways, "Prairie" Type Locomotive (September 4th, 1925)

Shipbuilding, Engineering and Machinery Exhibition, Olympia.

Names of Exhibitors.

A

ALLEN-LIVERSIDGE, Ltd., 662
Aster Engineering Company (1913), Ltd., 574, 575
Auto-Klean Strainers, Ltd., 663
Automatic and Electric Furnaces, Ltd., *Suppt.*, 20.11.25, xvii, xviii

B

BABCOCK and Wilcox, Ltd., 604, 605
Bennis, Ed., and Co., Ltd., 632
Birmingham Small Arms Company, Ltd., *Suppt.*, 20.11.25, xx
Bolton's Superheaters and Pipe Works, Ltd., 631
Boulton and Paul, Ltd., *Suppt.*, 20.11.25, iv, v
British Electric Vehicles, Ltd., *Suppt.*, 20.11.25, x
British Perlit Iron Company, Ltd., 574
British Separators, Ltd., *Suppt.*, 20.11.25, xiii, xiv
Broom and Wade, 664
Burn, Lewis—*see* Stothert and Pitt

C

CAMBRIDGE Instrument Company, Ltd., *Suppt.*, 20.11.25, vii, viii
Chadburn's (Ship) Telegraph Company, Ltd., *Suppt.*, 20.11.25, xiv, xv
Clarkson Steam Motors, *Suppt.*, 20.11.25, ix
Clews Petersen Piston Ring and Engineering Company, *Suppt.*, 20.11.25, vi
Crankless Engines, Ltd., 664

E

ELECTROFLO Meters Company, Ltd., *Suppt.*, 20.11.25, x, xi
Empson Centrifugals, Ltd. *Suppt.*, 20.11 25, xi, xii

F

FIRTH, Thos., and Sons, Ltd., 665

G

GARDNER, L., and Sons, Ltd., 633
Godfrey Engineering Works, *Suppt.* 20.11.25, xvi
Gordon, James, and Co., Ltd., 663
Green, E., and Son, Ltd., 602

H

HADFIELDS Ltd., 603
Hakol, Ltd., 662
Halden, J., and Co., Ltd., 667
Harper, A., Sons and Bean, Ltd., 665
Hele-Shaw-Beacham—*see* Holman Brothers and Harper, A., Sons and Bean, Ltd.
Herbert, Alfred, Ltd., 633
Holman Brothers, Ltd., 632
Hughes, Henry, and Son, Ltd., *Suppt.*, 20.11 25, v

I

IGRANIC Electric Company, Ltd., *Suppt.*, 20.11.25, xvii

K

KANGO Company, Ltd., 662
Kelvin, Bottomley and Baird, Ltd., *Suppt.*, 20.11.25, iii, iv
Kent, George, Ltd., 605
Kitchen's Reversing Rudder Company, Ltd., 559
Knight and Smith, 605

L

LACY-HULBERT and Co., Ltd., 603, 633; (Correction), 633
Laurence, Scott and Co., Ltd., *Suppt.*, 20.11.25, vi, vii
Liptak Furnace Arches, Ltd., 571—*see also* Bennis, Ed., and Co.

M

MACLACHLAN Automatic Boat Davit Company, Ltd., 575
Marconi International Marine Communication Company, Ltd., *Suppt.*, 20.11.25, x
Michell Bearings, Ltd., 604
Musgrave and Sons, Ltd., 633

N

NEGRETTI and Zambra, 572, 573
Norman Engineering Company, 603, 604
North-Eastern Marine Engineering Company, Ltd., 667

P

PARSONS, C. A., and Co., Ltd., *Suppt.*, 20.11.25, xx
Parsons Marine Steam Turbine Company, Ltd., *Suppt.*, 20.11.25, xviii
Petters Ltd., *Suppt.*, 20.11.25, viii, ix
Pneumatic Plate Tightener Sales Company, Ltd., 663

Q

QUANTAMETERS, Ltd., 558, 559

R

RADIO Communication Company, 559, 560
Ransomes, Sims and Jefferies, 555
Reavell and Co., Ltd., 555, 556, 557
Redrup Motors, Ltd., 602
Rudkin, J. B., 665
Ruston and Hornsby, Ltd., 631
Ryder and Davidson, 630, 631

S

SHEEPBRIDGE Coal and Iron Company, Ltd., *Suppt.*, 20.11.25, xv, xvi
Sheepbridge Stokes Centrifugal Castings Company, Ltd., *Suppt.*, 20.11.25, xv
Siemens Brothers and Co., Ltd., 557, 558
Sperry Gyroscope Company, Ltd., 572
Stone, J., and Co., Ltd., 604
Stothert and Pitt, Ltd., 629, 630
Stream Line Filter Company, Ltd., 558
Sulzer Brothers, 606
Sunderland Forge and Engineering Company, Ltd., 630
Super-Centrifugal Engineers, Ltd., *Suppt.*, 20.11.25, xii, xiii, xiv

T

THORNYCROFT, John I., and Co., Ltd., 667
Thurley Grip-All Company, 555

V

VICKERS-PETTERS, Ltd., *Suppt.*, 20.11.25, i, ii, iii

W

WHITE, E. T., and Co., Ltd., 573
Worthington-Simpson, Ltd., *Suppt.*, 20.11.25, xviii, xix

Exhibits.

A

Air Compressors:
Crankless Air Compressor, Two-stage, Eight-cylinder, Broom and Wade, 664
Three-cylinder Crankless Air Compressor, Piston and Slant, Crankless Engines, Ltd., 664
Hand-operated, Rotary and Other Smaller Compressors, 557
Marine Emergency Compressor, 557
Two-stage Vertical Air Compressor and Intercooler, 555, 556, 557
Three-stage Steam-driven Compressor, Reavell and Co., Ltd., 556, 557
Hele-Shaw-Beacham Four-cylinder Air Compressor, Holman Brothers, 632
Portable and Semiportable Air Compressors, Tire Inflater, Lacy-Hulbert and Co., Ltd., 603, 633

ARCHES, Furnace, Interlocking Air-cooled Wall, Liptak Furnace Arches, Ltd., 571

B

Bearings:
Ordinary and Michell Journal Bearings, Model showing Comparison, Michell Bearings, Ltd., 604
BOAT-LAUNCHING Gear, Maclachlan Automatic Boat Davit Company, Ltd., 575

Boilers:
Boiler Control, Meters, &c.—*see also* Instruments
Economiser, Tri-tube Horizontal, for Boilers, Model of, E. Green and Son, Ltd., 602
Feed-water Regulator, Duplex Boiler Check Valve, Aster Engineering Company, Ltd., 574, 575
Feed-water Regulator, Copes, with New Alarm, James Gordon and Co., Ltd., 663
Thermax Boiler, Ruston and Hornsby, Ltd., 631
Thimble Tube Waste Heat Boilers for Land or Marine Service, Clarkson Steam Motors, *Suppt.*, 20.11.25, ix

C

Castings:
Centrifugal Castings, Manufacture of, Sheepbridge Stokes Centrifugal Castings Company, Ltd., *Suppt.*, 20.11.25, xv

Cranes:
Electric Runabout Crane, Ransomes, Sims and Jefferies, Ltd., 555

E

ECONOMISERS—*see* Boilers

Electrical Matters:
Barrel Type Motor Starter, Laurence Scott and Co., Ltd., *Suppt.*, 20.11.25, vi, vii
Crane Motor with Floating Brake, *Suppt.*, 20.11.25, vi
Donkin Scott Electric Steering Gear, *Suppt.*, 20.11.25, vi
Electric Winch, *Suppt.*, 20.11.25, vi
Electolite Lighting Sets, Boulton and Paul, Ltd., *Suppt.*, 20.11.25, v
Electric Heating Plug for Vickers-Petters Engine, *Suppt.*, 20.11.25, iii
Electric Heater—*see also* Purifiers
Marine Electrical Devices, Various, Siemens Brothers and Co., Ltd., 557—*see also* Instruments and Wireless
Ships, Electrical Machinery for: Steam Electric Generator Sets; General Purpose Ships' Motors; Enclosed Water-tight Motor; Lighting Sets; Electric Worm-driven Cargo Winches; 5-Ton Back-geared Ships' Cargo Winch; Navigation Light Indicator; Luminous Signalling System for Stewards, &c., Sunderland Forge and Engineering Company, Ltd., 630
Star-delta Switch; Automatic Contactor and Control Panels; Automatic Starting Rheostats; Battery Charging Panels, &c., Igranic Electric Company, *Suppt.*, 20.11.25, xvii
Electrical Matters (*continued*):
Static Transformer, 5500/508-Volt 40-Cycle; Turbo-generator, 100-Kilowatt; Transformer Accessories; Searchlight Reflectors, &c., C. A. Parsons and Co., Ltd., *Suppt.*, 20.11.25, xx
Switches, 45,000-Volt Line Sectioning, 12,000-Volt Automatic Line Sectioning; Transmission Line Mast with Transformer, &c., J. B. Rudkin, 665

Engines:
"C" Type Low-compression Heavy Oil Engines; Auxiliary Lighting Set; Fuel and Starting Systems, Vickers-Petters, Ltd., *Suppt.*, 20.11.25, i, ii, iii
Cold-starting Horizontal Oil Engine, 47 B.H.P.; Four-cylinder Marine Type Oil Engine; Petrol-paraffin Small Lighting Sets, L. Gardner and Sons, Ltd., 633
15 B.H.P. Crude Oil Engine for Electric Lighting Service, Babcock and Wilcox, Ltd., 604, 605
Eight-cylinder Crankless Petrol Engine, Engine Pistons and Slant, Crankless Engines, Ltd., 664
Internal Combustion Engine, Two-stroke Six-cylinder, Redrup Motors, Ltd., 602
Marine and Stationary Oil and Petrol Engines; Alpha-Petter Electric Lighting Plant; 5 B.H.P. Magneto Type Petrol or Paraffin Engine; 3 H.P. Handyman Agricultural Engine, Petters, Ltd., *Suppt.*, 20.11.25, viii, ix
Meredith Engine, Steam or Compressed Air, for Mine or other Haulage, Model, Sheepbridge Coal and Iron Company, Ltd., *Suppt.*, 20.11.25, xv, xvi
Models of Specialities for Steam Reciprocating Marine Engines and Boilers, Boiler Auxiliaries, and North-Eastern Marine Oil Engines; Models of 3000 I.H.P. Marine Diesel Engine and Double-acting Four-cycle North-Eastern-Werkspoor Engine, North-Eastern Marine Engineering Company, Ltd., 667
Motor Car Engines—*see also* Motor Parts
Numerous Exhibits of Petrol and Paraffin Engines for Marine and Stationary Work, Ailsa Craig Marine Motors, Large and Small, 667
300 B.H.P. Six-cylinder Airless Injection Oil Engine, Sulzer Brothers, 606
Three-cylinder Vertical Oil Engines Coupled to Direct-current Electric Generators, Paraffin-petrol Engine Coupled to Single-ram Vertical Pump, Ruston and Hornsby; Ltd., 631
Three-cylinder Vertical Heavy Oil Engine, 225 B.H.P. New Type, Worthington-Simpson, Ltd., *Suppt.*, 20.11.25, xviii, xix

F

FEED-WATER Regulators, Valves, &c.—*see* Boilers; *also* Instruments

Furnaces:
Furnaces, Wild-Barfield, Electro-magnetic; Visual Pyroscopic Tell-tale; Tempering Bath, Electrically Heated Oil, Automatic and Electric Furnaces, Ltd., *Suppt.*, 20.11.25, xvii, xviii

G

Gear, Reduction, &c.:
Boat's Gear—*see* Boat
Burn Transmission Gear; Burn Gear for Planing Machine Drive, Stothert and Pitt, Ltd., 629, 630
Reduction Gear, The Pitter "Helicocentric," Ryder and Davidson, 630, 631
Hydraulic Transmission: Hele-Shaw-Beacham Variable Hydraulic Transmission System, Variable Stroke Pump and Constant Stroke Motor; Pump, Motor and Winch Fitted with Gear, Harper, Sons and Bean, Ltd., 665, 666

GUN, Line-throwing, Birmingham Small Arms Company, *Suppt.*, 20.11.25, xx
Gyro Repeater Direction Finder Sperry Marconi, 572

H

HAMMERS—*see* Unclassed

I

Instruments, Indicators, Meters, Gauges, &c. —*See also* Electrical Matters
- Automatic Pilot, "Two-unit"; Gyro Repeater Direction-finder, Sperry Gyroscope Company, Ltd., and Marconi International Company, 572
- Behm Echo-depth Sounder and Time-interval Recorder, *Suppt.*, 20.11.25, iv
- Boulton Econometer, *Suppt.*, 20.11.25, iii
- Heating and Ventilating Unit (Ships' Cabins), *Suppt.*, 20.11.25, iii
- Pneumercator Distant Boiler Water Gauge, *Suppt.*, 20.11.25, iv
- Pneumercator Tank Gauge and Draught Indicator, *Suppt.*, 20.11.25, iii, iv
- Vibrometer, *Suppt.*, 20.11.25, iii
- Kelvin, Bottomley and Baird, Ltd., *Suppt.*, 20.11.25, iii, iv

CO and CO_2 Indicators and Recorders; Temperature Measurement and Regulator Apparatus; Dial Thermometers; Draught and Pressure Gauges, Cambridge Instrument Company, *Suppt.*, 20.11.25, vii, viii

Dial Gauge for Tank Level Measurements, Dial and Other Thermometers, Negretti and Zambra, 572, 573

Echo Depth Sounder, Sound Transmitter and Echo Receiving Apparatus (Admiralty System), Henry Hughes and Son, Ltd., *Suppt.*, 20.11.25, v

Meter, Steam, Propeller Type; Boiler Water Level Recorders, Electrical, &c., George Kent, Ltd., 605

Meters for Measurement of Flow of Steam, Air, Gas, Water, &c., Boiler Control Equipment; Boiler Meter Equipment; Duplex Recording Pyrometer; Draught and Pressure Indicators for Boiler Control, &c., Electroflo Meters Company, Ltd., *Suppt.*, 20.11.25, x, xi

Revolution Indicator, Siemens Brothers and Co., Ltd., 557

Water Level Indicator, Various Types, for Depth, Boilers, Tanks, Oil Fuel and Vacuum; Pipe Flow Measurement Device, &c., Quantameters, Ltd., 558, 559

Iron and Steel:
- *See also* Castings
- Perlit Cast Iron; Iron Air Compressor Piston; Iron Piston for Diesel Engine; Laboratory Tests of Perlit Iron Liner, British Perlit Iron Company, Ltd., 574
- Steel:
  - Era, H.R., Heat-resisting Steel; Heela A.T.V. Corrosion-resisting Steel, Hadfields, Ltd., 603
  - "Staybrite" Silver Steel, Various Exhibits: Manganese, Rustless Steel Diving Suit, &c., Thos. Firth and Sons, Ltd., 665

L

LIGHTING Sets—*see* Engines

M

Motor Parts:
- Cylinders, Crank Cases; White Four-cylinder Engines and Watson Engine; Warmota Car Heater; Vapour Oil System of Fuel Supply, &c., E. T. White and Co., Ltd., 573

O

OIL Gas, Vapour Oil—*see* Unclassed
Oil Purifying—*see* Purifiers
Oxygen Jet Metal Cutting Machine, New Type, Godfrey Engineering Works, *Suppt.*, 20.11.25, xvi—*see also* Welding

P

PHOTO Printing, Washing and Drying—*see* Unclassed
Pipe Wrench, Thurley Grip-All Company, 555
Piston Rings, Method of Making, Clews Petersen Company, *Suppt.*, 20.11.25, vi
Piston—*see also* Iron
Pistons—*see* Iron and Steel
Pneumatic Plate, Pulverised Coal—*see* Unclassed

Pumps:
- Boiler Feed, Centrifugal, Vertical Simplex and Horizontal Duplex Pumps; Double-acting Motor-driven Pumps, Worthington-Simpson, Ltd., *Suppt.*, 20.11.25, xix
- Lowrey - Turbo Portable Pumping Set, Boulton and Paul, Ltd., *Suppt.*, 20.11.25, iv, v
- Stone-Paramor Rotary Pump, J. Stone and Co., Ltd., 604

Purifiers and Separators:
- Oily Bilge Water Separator, Filter and Centrifugal Pump, Stream Line Filter Company, Ltd., 558
- Oily Bilge Water Separator, Working Model, Knight and Smith, 605
- Purifier, De Laval Centrifugal Oil, for Marine Use, Chadburn's (Ship) Telegraph Company, Ltd., *Suppt.*, 20.11.25, xiv, xv
- Purifiers, Centrifugal, Portable and Fixed for Lubricating, Transformer and other Oils; Electrical Heaters and Pumps, Empson Centrifugals, Ltd., *Suppt.*, 20.11.25, xi, xii

Purifiers and Separators (*continued*):
- Purifying Machine, Sharples Super-Centrifuge, for Industrial or Marine Purposes, Super-Centrifugal Engineers, Ltd., *Suppt.*, 20.11.25, xii, xiii, xiv
- Separator, Centrifugal, the "Vickeen," for Oil or other Liquid; Self-contained Electric Drive, British Separators, Ltd., *Suppt.*, 20.11.25, xiii, xiv

R

ROPE GUARD—*see* Unclassed
Rudder, Reversing, New Type, Kitchen's Reversing Rudder Company, Ltd., 559

S

SEPARATORS—*see* Purifiers

Sewage Plant:
- Jennings-Hytor Sewage Lifting Plant, Compressor and Pump, Norman Engineering Company, 603, 604

Small Craft:
- Engines for—*see* Engines
- 55-Foot Sea-going Cruiser, Photograph of, John I. Thornycroft and Co., Ltd., 667

Steam Condensation Appliances:
- Steam Ejector; Ejector Air Pumps, Centrifugal Condensate Extraction Pumps, &c., Musgrave and Sons, Ltd., 633

STEEL—*see* Iron and Steel
Steering—*see* Rudder, *also* Wireless

Stokers:
- Deep Type Chain Grate Stoker, Ed. Bennis and Co., Ltd., 632—*see also* Arches

STRAINER—*see* Unclassed

Superheaters:
- Bolton-Gray High Superheat Sectional Superheater, Bolton's Superheater and Pipe Works, Ltd., 631

T

TEMPERING—*see also* Furnaces

Trucks:
- Electric Trucks, Ransomes, Sims and Jefferies, Ltd., 555
- Midget Whippet Electric Elevating Platform Truck, British Electric Vehicles, Ltd., *Suppt.*, 20.11.25, x

Turbines:
- High Efficiency Marine Geared Turbine Installation, Model of; Models of Steam Yacht Turbinia and Others, Parsons Marine Steam Turbine Company, Ltd., *Suppt.*, 20.11.25, xviii

U

Unclassed Exhibits:
- Hand Hammers, Electrically Operated, Kango Company, Ltd., 662
- Oil Gas Producer, Novel Apparatus, Hakol, Ltd., 662, 663
- Photo Printing and Photo Copying Machines, J. Halden and Co., Ltd., 667
- Pneumatic Plate Tightener, The Hallet, Pneumatic Plate Tightener Sales Company, Ltd., 663
- Pulverised Coal Burning, Fuller-Kinyon System, Series of Models, Babcock and Willcox, Ltd., 604
- Stone-Blake Rope Guard, J. Stone and Co., Ltd., 604
- Strainer, Marine and Industrial; Converted Gauze Strainer, Auto-Klean Strainers, Ltd., 663
- Vapour Oil System of Fuel Supply, E. T. White and Co., Ltd., 573
- Washing and Drying Apparatus for Lucigraph Photographic Copying Machine, Alfred Herbert, Ltd., 633
- Winch, Ship's Steam Working, Babcock and Willcox, Ltd., 604

W

WALL, Interlocking—*see* Arches

Welding, Metal Cutting, Brazing, &c.:
- Air-acetylene System, New Type, Lead "Burning" with Oxy-acetylene Pipe, Allen-Liversidge, Ltd., 662

WINCH—*see* Unclassed

Wireless Telegraphy and Telephony:
- Direction Finding Aerial and Receiver, Siemens Brothers and Co., Ltd., 558
- Lifeboat Wireless Installation: Transmitter, Continuous Wave, for Land or Sea Use; Various other Installations, Radio Communication Company, 559, 560
- Transmitting and Receiving Apparatus for Communication at Sea, Increased Safety, Navigation Assistance; Marconi V4 Broadcast Receiver; Marconi Band Repeater for Ships, &c., Marconi International Marine Communication Company, *Suppt.*, 20.11.25, x

Miscellaneous Articles.

A

ACETYLENE Welding and Cutting, 677
Activated Sludge, Treatment of, 247
Adamson, Daniel, Design and Construction of Electric Cranes, 461

AERONAUTICS:
- Aeronautical Research Committee, Report on the Effect of Keyways on the Strength of Shafts, 96
- Aeroplane Models: Camera Plastica (for Aerial Survey); Duplicate of Aerial Lighthouse; Miniature Wind Tunnel; Reid Time Reaction Apparatus, 66
- Air Ministry's Exhibits at Wembley, 66
- Autogiro Flying Machine, Don Juan de la Cierva, 430
- British Marine Aviation, 399, 406
- Flying Boat Design, O. E. Simmonds, 287
- Mélot Propulseur Trompe for Aeroplanes, 301
- Progress in Aeronautics, R. V. Southwell, 325

AGECROFT Power Station, 329
Ahrons, E. L., The British Steam Railway Locomotive from 1825 to 1924, 2, 28, 54, 80, 104, 132, 156, 180, 206, 232, 258, 284, 312, 338, 366, 394, 422, 452, 480, 508, 538, 570, 598, 628; (Letters), 36, 88, 123, 140, 172, 173, 198, 199, 210, 237, 275, 294, 317, 357, 376, 400, 429, 469, 470, 580, 668; (Erratum), 481
Air Compressing Plant—*see also* Coal; *also* Separate Section, Olympia Exhibition
Air Compressors, Portable, Reavell and Co., Ltd., 635, 636
Air Pollution from the Engineer's Standpoint, John B. C. Kershaw, 168
Alcohol from Beet, 527
Alcohol for Motor Fuel in the Tropics, 70
Alloys—*see* Institute of Metals
Aluminium Alloy Castings, Improving the Properties of, 292
American Conveyors, Newspapers, 610, 619
Appleton, Professor E. V., on Thermionic Valve Problems, 271; also Lecture on Wireless Telegraphy, 271
Arc Welding Plant, Two-operator Electric, Premier Electric Welding Company, Ltd., 550
Artificial Light, Effect of, on Fabrics, Experiments, 294
Asphalt and Bituminous Macadam Plant, 10-Ton per Hour, Stothert and Pitt, Ltd., 616, 617
Asphalt Macadam Plant, Portable, Roadways Equipment, Ltd., 638

ASPHALT MIXERS:
- Asphalt Mixing Plant, Davey, Paxman and Co., Ltd., 528; (Correction), 656
- Asphalt Plant, 8-10-Ton per Hour, Millars' Machinery Company, Ltd., 635
- Asphalt, 8-Ton Portable Plant, Marshall, Sons and Co., Ltd., 700

ASPINALL, Sir John A. F., Some Railway Notes, Old and New, 510

ASSOCIATIONS, INSTITUTIONS & SOCIETIES:

Association, The British:
- List of Papers, 219
- Meeting in Southampton, 219, 235, 270, 286, 324
- Presidential Address, Professor H. Lamb, 218
- SECTION A:
- Thermionic Valve Problems, Professor E. V. Appleton, 271
- Wireless Wave Problems, Dr. R. L. Smith-Rose, 287
- SECTION B (CHEMISTRY):
- Electro-deposited Chromium, E. A. Ollard, 236
- SECTIONS B AND G:
- Ignition of Gases, Professor H. B. Dixon, 271
- SECTIONS F AND G:
- Modern Ports, Alfred Schofield, 325
- Roadless Traction, Philip Johnson, 324
- Transport Problems, Lieut.-Col. H. T. Tudsbery, 324
- SECTION G:
- Fifty Years' Evolution in Naval Architecture and Marine Engineering, Sir Archibald Denny, 219, 221
- Flying Boat Design, O. E. Simmonds, 287
- High Efficiency Steam Installations for Ship Propulsion, Stanley S. Cook, 270
- Quay Walls of Southampton Docks, F. E. Wentworth-Shields, 235
- Scantling Developments in Iron and Steel Merchant Ships, J. Foster King, 235
- Southampton Docks Electrical Supply, H. Wauchope, 270
- Standardisation in Engineering (British Engineering Standards Association), C. le Maistre, 271
- Technical Training for Naval Constructors, Engineer Vice-Admiral Sir Robert Dixon, 286
- Value of the Experiment Tank in Relation to Ship and Propeller Design, Edwin R. Mumford, 235
- Wireless Telegraphy Lecture, Professor E. V. Appleton, 271

ASSOCIATIONS, INSTITUTIONS & SOCIETIES (*continued*):

Association, The British (*continued*):
- SECTION L:
- Progress in Aeronautics, R. V. Southwell, 325
- Technical Education, Discussion, 325

Association, Diesel Engine Users':
- Committee's Visit to Electricity Generating Station, 376
- Scottish Shale Industry, Edwin M. Baily, 471
- Working of the Ruston Mechanical Injection Oil Engine, C. O. Milton, 57

Association of Engineers, Manchester:
- Carborundum, F. W. Higgins, 608
- Construction and Maintenance of Electric Overhead Travelling Cranes, Daniel Adamson, 460
- Marine Diesel Engines, James Richardson, 549
- Modern Physics and its Bearing on Engineering Progress, A. P. M. Fleming, 668
- Presidential Address, R. Onions, 412
- Visit to Works of British Helsby Cables, Ltd., 331

Association of Technical Institutions:
- Summer Meeting at Bournemouth, 56
- Adult and Technical Education, Principal C. Coles, 56
- Technological Student Position, Principal T. H. Hudson, 56
- Training for Management, R. W. Ferguson, 56

Institute, Iron and Steel:
- Autumn Meeting at Birmingham, 111, 262, 290
- Papers, List of and Provisional Programme, 111
- Ancient Iron from Richborough and Folkestone, J. Newton Friend and W. E. Thorneycroft, 291
- Blast-furnace Practice in India, J. L. Keenan, 290
- Davis Steel Wheel, W. R. Martin, 290
- Direct Steel Process for Iron and Steel Production, H. Flodin, 263
- High-frequency Induction Furnaces, D. F. Campbell, 291
- Notched Bar Impact Test, R. H. Greaves and J. A. Jones, 291
- Orientation of Crystals Produced by Heating Strained Iron, Miss C. F. Elam, 291
- Steel Moulding Sands and their Behaviour under High Temperatures, A. L. Curtis, 290

ASSOCIATIONS, INSTITUTIONS & SOCIETIES (*continued*):

Institute, Iron and Steel (*continued*):
- Tensile Properties of Single Iron Crystals; Influence of Crystal Size on Tensile Properties of Iron, Professor C. A. Edwards and L. B. Pfeil, 291

Institute of Marine Engineers:
- Future of the Motor Ship, Lord Inverforth, 470

Institute of Metals:
- Autumn Meeting, Glasgow, 124, 244, 260
- Elections, 244
- Programme, Papers, 124
- Visits to Works, 245
- Alloys of Aluminium, Copper and Zinc, Constitution of, Dr. Marie L. V. Gayler and Dr. Hanson, 260
- Alpha Phase Boundary to the Copper-tin System, D. Stockdale, 260
- Beta Transformation in Copper-zinc Alloys, Dr. J. L. Haughton and Mr. W. T. Griffiths, 244
- Colloidal Separations in Alloys, Professor J. H. Andrew and Mr. Robert Hay, 245
- Constitution of Alloys of Aluminium, Copper and Zinc, Dr. D. Hanson and Dr. M. L. V. Gayler, 244
- Corrosion of Aluminium Alloys, L. H. Callendar, 260
- Education, Research and Standardisation, Lecture, Sir John Dewrance, 240, 244
- Lead-base Anti-friction Alloy, Professor O. W. Ellis, 260
- List of Papers Not Read, 261
- Physical Properties of the Copper-cadmium Alloys, C. H. M. Jenkins, 245
- Primitive Copper Industry of America, G. B. Phillips, 261
- Properties of Some Aluminium Alloys, Harry Hyman, 260
- Thermal Conductivities of Industrial Non-ferrous Alloys, J. W. Donaldson, 244
- Time Factor and Tensile Tests, John Brown, 244
- Zinc-cadmium Alloys as Solders, R. B. Deeley, 245

Institution of Automobile Engineers:
- Presidential Address, The Automobile Engineer, H. Kerr Thomas, 372

ASSOCIATIONS, INSTITUTIONS & SOCIETIES (*continued*):

Institution of Civil Engineers:
Construction of New Entrance to Tranmere Dock, P. W. Bertlin, 550
October Examinations, 1925, Pass List (Interim), 593
Steam Turbine and Condenser Test Codes, 401
Steel Works Engineering, &c., Presidential Address, Sir W. H. Ellis, 494
LONDON STUDENTS' ASSOCIATION:
Escalators on the Central London Railway, H. F. Molony, 645

Institution of Electrical Engineers:
Cost of Distribution, R. A. Chattock, 499
Dielectric Problems in High-voltage Cables, Percy Dunsheath, 533
I.E.E. Wiring Regulations, 148
Marine Wireless Apparatus, Major Binyon, 524

Institution of Engineers and Shipbuilders in Scotland:
Marine Spring-loaded Safety Valve, Jubilee, Donald MacNicoll, 621
Position of British Marine Engineering, A. J. Campbell, 386

Institution, Junior, of Engineers:
Super-tension Cable Dielectrics, A. J. Tracey, 432

Institution of Mechanical Engineers:
Applications of Research to Modern Foundry Practice, J. E. Fletcher, 667, 703
Australia and New Zealand, Presidential Address, Sir Vincent L. Raven, 466
Awards to Graduates' Sections, 623
Cast Iron and Modern Engineering Practice, J. G. Pearce, 667
Characteristics and Uses of Ground Gears, H. F. L. Orcutt, 585, 589, 618
Newcastle-upon-Tyne Summer Meeting, 10, 40
Outline Programme, 10
Centenary of the Locomotive, Presidential Address, 40
George Stephenson Fund, 41
Three-cylinder High-pressure Locomotive, H. N. Gresley, 41, 46, 58
Visits to Numerous Works, &c., 41
NORTH-WESTERN SECTION:
Annual Dinner, 691
Characteristics and Uses of Ground Gears, H. F. L. Orcutt, 676
Visit to the Humber Portland Cement Works, 33

Institution of Municipal and County Engineers:
AFRICAN SECTION:
Durban Water Supply, W. M. Campbell, 701

Institution, North-East Coast, of Engineers and Shipbuilders:
Shipbuilding Position, Presidential Address, Sir Eustace H. Tennyson d'Eyncourt, 426

Institution of Production Engineers:
Presidential Address R. H. Hutchinson, 427

Institution, Royal:
Faraday as a Chemist, Sir William J. Pope, 162, 195
Lectures, One Hundredth Christmas Series, Other Courses before Easter, 671

Society, American, of Naval Architects and Marine Engineers:
General Meeting and List of Papers, 438

Society, Newcomen:
Ironmaking in the Forest of Dean, Rhys Jenkins, 575
Summer Meeting at Gloucester, 18
Visits to the Forest of Dean, Tin-plate Works, Scowles Iron Ore Workings, Speech House, Stroud Valley, Thames and Severn Canal, &c., 18, 19

AUSTRALIA and Young Engineers, 465, 466
Automobile Engineer, H. Kerr Thomas, 372
Averages and Mean Values, 143; (Letter), 171

B

BAILY, Edwin M., Scottish Shale Industry, 471
Baker, G. S., Frictional Resistance of Ships, 207, 484
Baker, G. S., Papers at Technical Societies, 67
Band Saw and a Planing Machine, A. Ransome and Co., Ltd., 304
Band Saw Relieving Device, John T. Pickles, 10
Beardmore-Blake Oil-fired Boiler, Test of, 224
Bearings, Plain *v.* Roller, for Tramcars, 701
Bengal Smoke Nuisances Commission, 164
Bertlin, Percy W., Construction of New Entrance to Tranmere Dock, 550
Binyon, Major, Marine Wireless Apparatus, 524
Bituminous Macadam—*see* Asphalt
Blast-furnaces—*see* Iron and Steel
Bobbin—*see* Textile
Boiler Equipment at the Hell Gate Power Station, New York, John B. C. Kershaw, 670, 674
Boiler Firing in a Paper Mill, Pulverised Fuel for, 292
Boiler Plates, The Cracking of, 554
Boilers, Experiments on Strains in, C. E. Stromeyer, 649
Boilers, High-pressure, 270
Boilers, Stresses in, 611
Boilers—*see also* Separate Section, Olympia Exhibition
Books of Reference, 95
Boring Machines—*see* Machine Tools
Bottle-making Machine, British, Francis Redfern, 395 (*Two-page Supplement, October 16th*, 1925)
Brass Strip—*see* Rolling Mill
Brazil and its Motor Cars, 201
Bridge, New Road, Erecting, over the Mahaweli Ganga, Ceylon, 56, 64
Bridges, Girder—*see* British Standard
Briggs—*see* Railways
Briquetting of Sawdust and Wood Shavings, 483

BRITISH ENGINEERING STANDARDS ASSOCIATION:
Seventh Annual General Meeting, 96

Specifications:
Brass Bars and Soft Solders, 71
British Standard Voltages, 702
Cast Iron Filter Plates and Frames, 111
Ebonite for Radio Reception, 702
Hard-drawn Aluminium and Steel-cored Aluminium Conductors, 588
Portable Photometers, 462
Portland Cement, 386
Roller Chains and Chain Wheels, 266
Series of New Specifications, 646
Tungsten Filament Lamps, 580
STANDARDISATION in Engineering, C. Le Maistre, 271
Standardisation Rules for Electrical Machinery, 677
Unit Loadings for Railway and Highway Bridges, 10

BRITISH Industry, Problem of, Sir Wm. Peter Rylands, 608
British Locomotives—*see* Railway Locomotives
British Machine Tools for Abroad, 274
British Marine Engineering, Position of, A. J. Campbell, 386
British Rainfall, 1924, 580
British Standard Specification for Girder Bridges, 4
Broadcasting—*see* Wireless
Büchi, Alfred, Diesel Engines and Hydro-electric Power Stations, 120, 146

C

CAMERON, Alexander, Manufacture of Condenser and Locomotive Tubes, 250
Campbell, A. J., on the Position of British Marine Engineering, 386
Campbell, D. F., High-frequency Induction Furnaces, 291
Canal, El, do Castilla, 340
Carborundum, F. W. Higgins, 608
Cardboard Box Machine, M. C. Ritchie, Ltd., 94
Carding—*see* Textile
Carr, Francis H., Scientific Basis of Industry, 644
Cast Iron Plates—*see* British Engineering Standards
Catalogues, 23, 49, 99, 127, 151, 175, 204, 227, 307, 361, 417, 447, 565, 684, 707
Ceylon, Erecting a New Road Bridge in, 56, 64
Chain Drive, 440 H.P., Hans Renold, Ltd., 374
Chemical Industry, French Congress of, 371, 385
Chester, Royal Agricultural Society's Show at, 34, 60
China, Motor Transport in, 376
China, Road-making in, 693
Chinese Problem, Professor C. A. Middleton Smith and Peking Correspondent, 300
Chromium, Electro-deposited, E. A. Ollard, 236
Civil Research, 65
Cleansing Work, Public—*see* Public Works Congress

COAL, COKE AND COLLIERIES:
Coal-handling Equipment, New Type, Fraser and Chalmers Engineering Works, 140
Colliery Compressed Air Transmission Scheme, 238, 242, 261, 268
Explosions, Coal Dust, in Mines, 222
Locomotive Coal Trials on the Southern Railway, H. Holcroft, 658
McEwen-Runge Low-temperature Coal Carbonisation System, 249

COMBINED Rotary Cement Kiln and Clinker Cooler, F. L. Smidth and Co., Ltd., 124
Compressors—*see* Air Compressors
Concrete Block-making Machine, The "R.V." Block Maker; Concrete Mixers: the "Positive," "Featherweight" and "Welterweight," with Boom Attachment, Ransome Machinery Co. (1920), Ltd., 586
Concrete Mixer, 4L "Jaeger," Millars' Machinery Company, Ltd., 635
Concrete Test Cylinders, 164
Condenser and Locomotive Tubes, Manufacture of, Alexander Cameron, 250
Congress of Industrial Chemistry, French, 371, 385
Congress, Public Works and Transport, 540, 577, 606—*see also* Exhibitions
Contracts, 23, 52, 78, 102, 130, 178, 204, 227, 256, 282, 310, 361, 392, 420, 450, 475, 500, 533, 596, 623, 656, 684
Conveyors, Newspaper, 610, 619
Cook, Stanley S., High Efficiency Steam Installations for Ship Propulsion, 270
Copenhagen, Projected Bridge to Connect, with the Island of Amager, Estimates Under Consideration, 294
Copper—*see also* Institute of Metals
Couplers, Railway—*see* Railways
Cranes—*see also* Separate Section, Olympia Exhibition
Crane, 15-Ton Electric Gantry, Bedford Engineering Company, 443
Crane Essentials—*see* Standardisation of
Crane Navvy, Ruston and Hornsby, Ltd., 588
Crane, 50-Ton Titan Steam, Stothert and Pitt, Ltd., 552, 561
Crane, Underhung Travelling Jib, for Kilindini, Vaughan Crane Company, Ltd., 648
Cranes, Electric, Design and Construction of, Daniel Adamson, 460
Cranes, 4-Ton Electric Level Luffing Wharf, Alex. Chaplin and Co., Ltd., 277
Cream Separator, Belt-driven, Cream Separator, Electrically Driven, Watson, Laidlaw and Co., Ltd., 35
Crushing and Screening Plant and Improved Block and Slab Making, Mixing and other Machines, Millars' Machinery Company, Ltd., 635
Cupola Design, Notes on, 144; (Letters), 173, 210
Current Prices for Metals and Fuels, 24, 50, 76, 100, 128, 152, 176, 202, 228, 254, 280, 308, 334, 362, 390, 418, 448, 476, 504, 534, 566, 594, 624, 654, 682, 708
Curtis A. L., Steel Moulding Sands, Behaviour Under High Temperatures, 290
Czecho-Slovakia, 347
Czecho-Slovak Delegation, 329

D

DAM Disaster in North Wales, 496
Dam, Sennar, on the Blue Nile, 16, 17 (*Two-page Supplement, July 3rd*, 1925)
Dam, Wilson, at Muscle Shoals, Alabama, 8, 9, 12, 29, 38, 68, 82
Damming the Karawau River, New Zealand, 356
Daventry—*see* Wireless
Dawson, Sir Philip, and Professor Parker-Smith on Main Line Railway Electrification, 182, 208, 341, 423
Demarcation—*see* Ships
Denny, Sir Archibald, Fifty Years' Evolution in Naval Architecture and Marine Engineering, 219, 221
Dewrance, Sir John, Education, Research and Standardisation, 240, 244
d'Eyncourt, Sir Eustace H. Tennyson, Shipbuilding Position, 426
Diesel-electric Rail Cars—*see* Railways
Diesel Engines—*see* Engines
Digby, W. P., Vibration Caused by Traffic, 356
Dixon, Engineer Vice-Admiral Sir Robert, Technical Training for Naval Constructors, 286
Dixon, Professor H. B., Ignition of Gases, 271
Dock, New Graving, at Sunderland, 111
Dockyards, Royal, 167
Drac-Romanche Water Power Undertaking, 692, 696
Drainage Plants Driven by Internal Combustion Engines, 562
Drilling Machines—*see* Machine Tools
Dunsheath, Percy, Dielectric Problems in High-voltage Cables, 533

E

EDGECOMBE, F. T., Measured Mile Trials, 548
Education, Research and Standardisation, Lecture, Sir John Dewrance, 240, 244
Educational Intelligence, 75, 130, 310, 333, 364, 475, 596, 653, 681
Edwards, Professor C. A., and Mr. L. B. Pfeil, on Crystal Size and Tensile Strength of Iron, 291
Egyptian Government Workshops, 315, 322
Elam, Miss C. F., Orientation of Crystals Produced by Heating Strained Iron, 291

ELECTRICAL MATTERS:
See also Separate Section, Olympia Exhibition
Accumulator, An Improved, Tungstone Accumulator Company, 647
Ageeroft Power Station, 329
Auto-transformer Starter, British Thomson-Houston Company, Ltd., 411
Boiler Equipment, Turbo-generators, &c., at the Hell Gate Power Station, 670, 674
Change-over of Electric Supply, 88
Commercial Vehicles, Electric, at Olympia, 457, 485, 512—*see also* Exhibitions
Commutators, 100,000-Volt Transverter, 369
Converting Plant, 672
Cost of Distribution, R. A. Chattock, 499
Dielectric Problems in High-voltage Cables, Percy Dunsheath, 533
Diesel Engines and Hydro-electric Power Stations, Alfred Büchi, 120, 146
Electric Vehicles—*see* Motor Cars and Motor Vehicles: *also* Omnibus
Electricity Supply, 612
Excavator, Large, Electrical Equipment for, British Thomson-Houston Company, Ltd., 488, 527
Fifty-cycle Electricity Supply, 465
Frequency, 91
Generators, 25-Kilowatt, for Steam Generating Sets at Littleton, Lancashire Dynamo and Motor Company, Ltd., 471
I.E.E. Wiring Regulations, 148
International Conference on High-tension Electric Supply, 92
Locomotives, Electric—*see* also Railway Locomotives
Mines, Electric Locomotives for, Prize Award, 294
Motors, 2600 H.P., for a Paper Pulp Mill, Crompton and Co., Ltd., 95
Oil Engine Generator Set, Parsons Motor Company, Ltd., and Brush Electrical Company, Ltd., 72
Oil Engine Plant for Peak Loads, Sulzer Brothers, 95
Old-established Electrical Works, Johnson and Phillips, 1875, 43
Osborne (Adelaide) Power Station and Transmission System, 133, 142, 158, 166
Power and Heating Unit, Belliss and Morcom, 374
Power-house and Equipment at Muscle Shoals, Alabama, 8, 9, 12, 29, 38, 68, 82
Railways, Electric—*see* Railways
Rectifiers, 84, 107, 138, 161, 185 220, 233, 264, 287, 318, 346, 368
Ribble Power Station, 96
Rugby Wireless Station Equipment, Lighting, Auxiliaries, &c., 82 (*Two-page Supplement, July 24th*, 1925)—*see also* Wireless Telegraphy
Six-phase Transformer Core, 368
Southampton Docks Electric Supply, H. Wauchope, 270
Super-tension Cable Dielectrics, A. J. Tracey, 432
Supervisory Control of Automatic Substations, Metropolitan-Vickers Electrical Company, Ltd., 412
Thornhill Power Station, Yorkshire Electric Power Company, 32
Turbo-generator at Bradford Electricity Works, 547
Winnipeg Power Plant, Successful, Howden-Zoelly Turbines and C. A. Parsons and Co. Alternators, 62
ELLIS, Sir W. H., Steel Works Engineering, Colliery Engineering, &c., 493, 494
Energy from the Sun's Heat, 314

ENGINES AND MOTORS:
See also Separate Section, Olympia Exhibition
Air Compressing, Independent, Set, National Gas Engine Company, Ltd., 35

ENGINES AND MOTORS (*continued*):
Beardmore All-steel Quick-running Oil Engine, 345
Cold-starting, 35 B.H.P. Oil Engine, Tangyes Ltd., 34
Crossley-Kegresse Lorry Engine, 459
Diesel Engines and Hydro-electric Power Stations, Alfred Büchi, 120, 146
Double-acting Four-cycle Marine Oil Engines for the Motor Liner Gripsholm, Burmeister and Wain, 579, 614, 634, 640 (*Two-page Supplement, December 4th*, 1925)
Fuel Injection Arrangements, Blackstone and Co., Ltd., 34
Internal Combustion Engines for Drainage Pumps, Campbell Gas Engine Company, Ltd., 562
Jacob Perkins and his Steam Engines, C. R. K., 6
Marine Diesel Engines, J. Richardson, 549
Marshall Oil Engine, 150 H.P., for Deep Well Pumping, 296, 302

Motor Car Engines:
Six-cylinder, 18 H.P. and 30 H.P.; Four-cylinder, 14 H.P., Armstrong-Siddeley Motors, Ltd., 383
Six-cylinder Monobloc; Four-cylinder (3-Litre), Bentley Motors, Ltd., 382, 383
Six-cylinder, 18-50 Monobloc, Crossley Brothers, Ltd., 383, 384
Vauxhall Single Sleeve Valve 25-70 H.P. Engine, 403
Wolseley Four-cylinder AC8 and E4 Engines, 402

Motor Vehicle, Commercial, Engines:
Atkinson Uniflow Steam Engine for Wagon, and Vertical Boiler, 513
Dorman Engines, New, 512
"Guy" Engine Features, 512
Michell Crankless Engine, Crankless Engines, Ltd., 487
Radial Engine of "Autovan," Scammell, 515
Six-cylinder 50 H.P. Engine, Karrier, 513
Tractor, Six-cylinder 100 H.P. "G.B./6" Engine, John I. Thornycroft and Co., Ltd., 485

OIL Engine Generator Set, Parsons Motor Company, Ltd., and Brush Electrical Company, Ltd., 72
Oil Engine, 50 B.H.P., and Petrol-paraffin Engine, 24 B.H.P., Ruston and Hornsby, Ltd., 34
Oil Engine Plant (Diesel-electric) for Peak Loads, Sulzer Brothers, 95
Paraffin-petrol Launch, Paraffin-petrol 5-Ton Locomotive, Crossley Brothers, Ltd., 676
Parkeston Mail Motor Ship, Four-stroke Cycle Single-acting Engines, New Type, 170, 190, 194
5V Petrol or Paraffin Engine and Wallwin Pump; 5V Petrol or Paraffin Engine, Direct-coupled Lighting Set; Cold-starting Oil Engine, National Gas Engine Company, Ltd., 34, 35
Portable Oil Engine, 20–22 B.H.P., Ruston and Hornsby, Ltd., 582, 588
Portable Petrol Engine, R. A. Lister and Co., Ltd., 60
Solid Injection Oil Engine, Ruston and Hornsby, Ltd., 57
Supercharging, 39; (Letter), 171
Triple-expansion Forced Lubrication Engine, Drawing of, Belliss and Morcom, 374
ENGINEERS—*see* Young
Enrichment of Coal Gas by Oil, Fuel Research Board's Report, 442
Escalators—*see* Railways
Excavator, Large, Electrically Operated, Ruston and Hornsby, Ltd., and British Thomson-Houston Company, Ltd., 488, 525

EXHIBITIONS:
Commercial Vehicle Show, 457, 485, 512
Exhibition of Automobile Inventions, 10
International Fair at Salonica, 164
Motor Show, 382, 402, 438
Paris Exhibition, 118
Physical and Optical Societies' Exhibition, 653
Public Works, Roads and Transport Exhibition, 500, 586, 616, 635, 675
Railway Centenary Exhibition at the Science Museum, 409; (Paragraph), 463
Royal Agricultural Society's Show at Chester, 34, 60
Smithfield Club Show, 643
Textile Machinery Exhibition, 374, 410
Wembley, Air Ministry's Exhibits at, 66
Wireless Exhibition at Moscow, 164
Wireless Exhibition at the Royal Albert Hall, 302
Wireless Exhibition at the Royal Horticultural Hall, 409

EXPANSION Curves, 339

F

FAIRS—*see* Exhibitions
Faraday as a Chemist, Sir Wm. J. Pope, 162, 195
Farm Engineering, 379
Faverdale, Railway Relics at, 157
Fiegehen, Edward G., Standardisation of Crane Essentials, 600
Filter, Air-intake, Austin, 512
Filter, Stream-line, for Lubricating Oil, Stream-Line Filter Company, Ltd., 348
Fire-engine, Motor, and 250–300-gallon Pump, Martin Cultivator Company, Ltd., 62
Fletcher, J. E., Some Applications of Research to Modern Foundry Practice, 667, 703
Flodin, H., Direct Steel Process for Iron and Steel Production, 263
Floods, The 1924, in Madras Presidency, 124
Flume, Semi-circular Metal, 326
Flying Machines—*see* Aeronautics
Foreign Patents, 412
Forthcoming Engagements, 26, 52, 78, 102, 154, 178, 204, 230, 256, 282, 310, 336, 364, 392, 420, 450, 478, 506, 536, 568, 596, 626, 656, 684, 710
Foundry Practice, Applications of Research to J. E. Fletcher, 667, 703

FRENCH ENGINEERING NOTES:
25, 51, 77, 101, 129, 152, 177, 203, 229, 255, 281, 309, 335, 363, 391, 419, 449, 477. 505, 535, 567, 595, 625, 655, 683, 709; (Correction), 349
Airships, 335
Alcohol, 203
Anthracite, 477
Apprenticeship Tax, 101
Art and Industry, 535
Automatic Brakes, 255
Aviation, 203
Aviation Engines, 625
Batignolles Tunnel, 391
Belgian Strike, 255
British Coal, 281
Canal Haulage, 77
Carbonising Plants, 683
Coal Production, 281, 655
Coal Trade, 505
Coal Trouble, 153
Colliery Industry, 567
Commercial Seaplanes, 101
Commercial Treaties, 51
Competition Abroad, 363
Cruiser Duquesne, 709
Drac Barrage, 505
Dubious Situation, 77
Eight Hours' Day, 229
Engineer's Status, 595
Engineering Contracts, 625
Export Trade, 477
Export Valuations, 391
Flood Protection, 153, 535
Foreign Trade, 229, 335, 449, 709
French Trade Returns, 101
French View of British Crisis, 101
Future of Motor Fuels, 309
German Reparations, 177
Gliders, 177
Higher Prices, 229
Import Duties, 255
Industrial Chemistry, 419
Industrial Credit, 709
Inflating Exports, 709
Inland Waterways, 535
International Airways, 391
Iron and Steel Activity, 683
Iron and Steel Agreements, 625
Iron and Steel Production, 505
Iron and Steel Trades, 449
Locomotives and Wagons, 177
Machine Tools, 77, 449
Machinery Trade, 683
Marseilles Harbour Extensions, 595
Mediterranean Tunnel, 477
Metal Imports, 567
Miners' Wages, 129, 363, 391
Motor Cars, 335
Motor Fuels, 25
Motor Trade, 419
Moving Platforms, 595
National Economies, 203
Naval Construction, 77
Naval Manœuvres, 51
Neon Stroboscope, 505
New Lighthouse, 419
Oil Wells, 281
Paris Traffic, 391
Paris Water Supply, 25, 363
Port of Paris, 567
Port of Strasburg, 129
Prices and Wages, 51
Production Costs, 363
Public Works, 655
Rail Convention, 51
Railway Catastrophes, 153, 203, 281
Railway Coaches, 255
Railway Improvements, 309
Railway Rates, 625
Railway Reforms, 229
Road Materials, 625
Rolling Stock, 25
Russian Trade, 683
Scrap Iron Exports, 449
Seaplane Trials, 281
Situation, The, 535
Stabilisation, 177
Suction Gas Vehicles, 335, 477
Taxes and Trade, 655
Trade Expansion, 129
Trade Impediments, 567
Trade Position, 25
Traffic and Freights, 655
Transatlantic Flight, 255
Trans-Pyrenean Railways, 683
West African Railways, 595
World's Trade Inquiry, 309

FRICTIONAL Resistance of Ships, G. S. Baker, 207, 484
Friend, J. Newton, and W. E. Thorneycroft, Ancient Iron from Richborough and Folkestone, 291
Fuel Research Board's Report, Enrichment of Coal Gas by Oil, 442

G

GAS Producers for Motor Vehicles, Tulloch-Reading, 487
Gases, Ignition of, Professor H. B. Dixon, 271
Generating Machine, Spur Gear, Wm. Muir and Co., Ltd., 644
German Machinery Works, Productive Capacity of, 645
Gezira Irrigation Scheme, 211, 216, 217
Glasgow Tramways, 33
"Glider" Dryer, Frederick Parker, 675
Grain, Automatic Measurement of, Lea Recorder Company, Ltd., 472
Greaves, R. H., and J. A. Jones, Notched Bar Impact Test, 291
Grealey, H. N., Three-cylinder High-pressure Locomotive, 41, 46, 58, 65, 545; (Letters), 123, 210
Grinder and Screen, Combined, Marco, Ltd., 461
Ground Gearing, 584
Ground Gears, H. F. L. Orcutt, 585, 589, 618
Gully Emptier, Self-propelling, Yorkshire Patent Steam Wagon Company, Ltd., 61

H

HACKWORTH, Timothy, and Shildon, 634
Hadfield, Sir Robert, Address at French Congress of Chemical Industry, 371, 385
Head Lamp, Electric or Acetylene, Allen-Liversidge, Ltd., 383
Heatless Combustion, 352: (Letters), 376, 400, 401, 428, 470, 490, 523, 546, 613, 646, 691
Higgins, F. W., Carborundum, 698
High Efficiency—*see* Ships
High-frequency Induction Furnaces, D. F. Campbell, 291
High-pressure Steam, Use of, 697
Holcroft, H., Locomotive Coal Trials on the Southern Railway, 658
House Refuse Self-propelling Vehicle, Tuke and Bell, Ltd., 676
Houston, Sir Alexander, on Extended Use of Rivers for Domestic Water, 577
Hydraulic Turbines for New Zealand, Gilbert Gilkes and Co., Ltd., 223
Hydro-electric Development at the Muscle Shoals, Alabama, 8, 9, 12, 29, 38, 68, 82
Hydro-electric Installation for a Scottish Colliery, James Gordon and Co., Ltd., 492, 497
Hydro-electric Power Stations, Diesel Engines and, Alfred Büchi, 120, 146
Hydro-electric Scheme for Palestine, 301
Hydro-electric Works, Lake Truzzo, 181
Hydro-mechanical Transmission Gear, H. Schneider, Swiss Locomotive and Machine Works, 86, 90
Hydro-pneumatic Pumps—*see* Pumps

I

ILLUMINATING Niagara Falls, 124
Impurities, 39
Indicators, &c.—*see also* Instruments in Separate Section, Olympia Exhibition
Inductances—*see* Wireless
Institutions—*see* Associations
Internal Combustion Engines—*see* Engines
International Conference, Electric—*see* Electrical Matters
International Harvester Company, Self-loading and Tipping Trailer, 35, 36
International Railways—*see* Railways
International Road Congress, The Fifth, 73
Inverforth, Lord, The Future of the Motor Ship, 470

IRON AND STEEL:
See also Separate Section, Olympia Exhibition
Ancient Iron from Richborough and Folkestone, J. Newton Friend and W. E. Thorneycroft, 291
Applications of Research to Modern Foundry Practice, J. E. Fletcher, 667
Blast-furnace Practice in India, J. L. Keenan, 290
Cast Iron and Modern Engineering Practice, J. G. Pearce, 667
Cast Iron Plates—*see* British Engineering Standards
Crystal Size and Tensile Strength of Iron, Professor C. A. Edwards and Mr. L. B. Pfeil, 291
Davis Steel Wheel, W. R. Martin, 290
Direct Steel Process for Iron and Steel Production, H. Flodin, 263
Electro-deposited Chromium, E. A. Ollard, 236
German Iron and Steel Production, 408
Germany, Finished Steel Production in, 429
Ironmaking in the Forest of Dean, Rhys Jenkins, 575
Notched Bar Impact Test, R. H. Greaves and J. A. Jones, 291
Orientation of Crystals Produced by Heating Strained Iron, Miss C. F. Elam, 291
"Perlit" Cast Iron, 317
Permanent Moulds for Cast Iron, 327
Plating of Chromium on Steel, George M. Enos, 188
Production of Iron and Steel, 67
Russian Iron and Steel Production, 1924–5, 547
Special Iron for Motor Cars, 438
Steel Moulding Sands, A. L. Curtis, 290
Steel Works Engineering, Sir W. H. Ellis, 493, 494

IRRIGATION Scheme, The Gezira, 211, 216, 217

J

JACOB Perkins and His Steam Engines, C. R. K., 6
Jenkins, Rhys, Ironmaking in the Forest of Dean, 575
Johnson, Philip, Roadless Traction, 324
Juvenile Employment, 263

K

KEENAN, J. L., Blast-furnace Practice in India, 290
Kershaw, John B. C., Air Pollution from the Engineer's Standpoint, 168
Kershaw, John B. C., Boiler Equipment at the Hell Gate Power Station, 670, 674
Keyways, Effect of—*see* Aeronautical Research
King, J. Foster, Scantling Developments in Iron and Steel Merchant Ships, 235

L

LABOUR NEWS:
Labour Troubles in China, Professor C. A. Middleton Smith, 300
Unemployment, 13

LAKE Truzzo Hydro-electric Works, 181
Lathes—*see* Machine Tools
Launches and Trial Trips, 23, 49, 75, 99, 127, 154, 178, 204, 230, 307, 333, 361, 417, 475, 499, 533, 681

LEADERS:
American Locomotive Developments, 553
Australia and Young Engineers, 466
Averages and Mean Values, 143
Century of Railways, 323
Civil Research, 65
Compound Locomotives, 118
Converting Plant, 672
Cracking of Boiler Plates, 554
Demarcation and Hours in Shipyards, 435
Electricity Supply, 612
Farm Engineering, 379
Fifty-cycle Electricity Supply, 465
French Naval Renaissance, 407
Frequency, 91
Future of the Battle-cruiser, 671
Future of Low-temperature Carbonisation, 493
Ground Gearing, 584
Heatless Combustion, 352
High-pressure Boilers, 270
Impurities, 39
Irrigation in the Sudan, 217
Liquid Fuels of the Future, 91
Locomotive Boilers and Steam Pressures, 244
Locomotive Feed Heating, 193
Natural Alloys, 522
Naval Engineers, 641
Naval Programme, 117
Navy and the Nation, 521
"Nelsons" of the Navy, 351
New Battleships, 214
Plight of the Shipbuilding Industry, 191
Porosity, 436
Problem of the Submarine, 583
Railway Accidents, 243
Rational Calorific Values, 380
Royal Dockyards, 167
Shipyard Agreement, A, 697
Some Shipbuilding Conditions, 408
Specialisation, 13
Status of Naval Engineers, 585
Steam Locomotive, 641
Strength, 144
Stresses in Boilers, 611
Study of Failures, 298
Supercharging, 39
Three-cylinder Locomotives, 65
Training of Engineers, 493
Unemployment, 13
Use of High-pressure Steam, 697
Utilisation of Research, 168
Warships of the Future, 269
Words, 297

LEGISLATION and Industry, T. G. Otley, 148

LETTERS FROM OUR OWN CORRESPONDENTS:
England, North of, 22, 48, 74, 99, 126, 150, 174, 200, 227, 252, 278, 306, 332, 360, 388, 416, 446, 474, 502, 532, 564, 592, 622, 652, 680, 706
Lancashire, 21, 47, 73, 98, 126, 149, 173, 199, 226, 251, 277, 305, 331, 359, 387, 389, 415, 445, 473, 501, 531, 563, 591, 621, 651, 679, 705
Midlands and Staffordshire, 21, 47, 73, 97, 125, 149, 173, 199, 225, 251, 277, 305, 331, 359, 387, 415, 445, 473, 501, 531, 563, 591, 621, 651, 679, 705
Scotland, 23, 49, 75, 99, 127, 151, 175, 201, 227, 253, 279, 307, 333, 361, 389, 417, 447, 474, 503, 533, 565, 593, 623, 652, 681, 707.
Sheffield, 22, 48, 74, 98, 126, 150, 174, 200, 226, 252, 278, 306, 332, 360, 388, 416, 446, 474, 502, 532, 564, 592, 622, 652, 680, 706
Wales and Adjoining Counties, 23, 49, 75, 99, 127, 151, 175, 201, 227, 253, 279, 307, 333, 361, 389, 417, 447, 475, 503, 533, 565, 593, 623, 653, 681, 707

LETTERS TO THE EDITOR:
"Armstrong" Class—*see* G.W.R. Locomotives
Averages and Mean Values, T. Mohn, 171
Battleships and the Shipbuilding Crisis, Arthur Hoare, 294
Briggs' Railway Collection, Writer of the Article, 199
British Front-coupled Tender Locomotives with Large Wheels, E. L. Ahrons, 123; F. W. Brewer, 123, 173
British Railway Stations and Station Approaches, A. A. Buss, 668
British Steam Locomotive from 1825 to 1924, F. W. Brewer, 140, 199, 210, 317, 376; E. L. Ahrons, 140, 237, 400
Bromley Singles, G.E.R., F. W. Brewer, 88, 123; E. L. Ahrons, 123
Business Situation in England, F. W. Dean, 469
Canterbury and Whitstable Tunnel, J. G. H. Warren, 88
Catalogues for Australia, W. R. Hebble-white, 376
Chemical and Combustion Engineering, E. Kilburn Scott, 668
Compound Locomotives, A. J. Brewer 140 199; Chas. W. Dauncey, 172, 210, 294, 376, 490, 646; R. Axon, 237 317; W. B. Thompson, 275; Progress, 317, 357, 401; F. W. Brewer, 470, 523, 545, 613, 668; Compound, 613; E. L. Ahrons, 400, 429, 469; R. C., 429, 545, 613, 646
Congestion and Redistribution of Population, M. Macdonald, 647
Continental Steel Pipes for South Africa, Perrin's Ltd., 237
Cupola Design, A. Fleming Browne, 173; Writer of the Article, 210
Difficulties of Overseas Inventors, Overseas 470
Does Railway Electrification Pay? D. G. M., 37
Double-bogie Tenders, F. W. Brewer, 691
Drilling Glass, John D. Troup, 429
Drilling and Riveting Three-joist Stanchions, H. A., 490
Dry-weather Flows, Eric Crewdson, 62; Alfred A. Barnes, 88
Early Locomotive Bogies—*see* Locomotives with Bogies
Empire Patent, S. P. Christie, 546
Engineers and Salesmanship, J. C., 357; Auriga, 357; Stormproof, 376; Burton, Griffiths and Co., 470
Flexible Valve Gear, C. F. Dendy Marshall, 210
French Naval Renaissance, Compagnie Electro-Mécanique, 647; and Note
Future of the Airship, S. P. Christie, 275
G.W.R. Locomotives, F. W. Brewer, 317, 429
Heatless Combustion, W. T. David, 376; W. J. Walker, 400, 470, 523, 613, 691; B. Pochobradsky, 428, 490, 546, 646, 691; J. F. Alcock, 401; W. A. Tookey, 428
Increasing Production, Harry Adams, 36; H. Alexander, 62
Lima Locomotive, F. W. Brewer, 580; R. C., 613
Locomotion No. 1, S. and D. Railway, 275
Locomotive Boilers and Steam Pressures, F. W. Brewer, 294, 357, 401; Steam Loco., 317, 357; H. A. Stenning, 357
Locomotive Superheating, F. W. Brewer, 647
Locomotive Wheel Diameters, M. Barry, 580; E. L. Ahrons, 580
Locomotives with Bogies, Jas. Dunlop, 123, 172, 199, 237; J. G. H. Warren, 172, 210; E. L. Ahrons, 198
Low-temperature Carbonisation, David Brownlie, 613; H. L. Pirie, 647
Motor Converters *v.* Rotary Converters, G. Wuthrich, 469, 546; Robt. G. Jakeman, 523
Oil from Coal, M.I. Mech. E., 199
Ramsbottom Piston Rings, Wm. Hy. Robson, 275
Riveting Stresses in Boiler Plates, R. C. Kirkwood, 294
Scratch Hardness Tests, A. E. Crisp, 123
Screw Propellers, C. W. Dyson, 19
Simplification (Standardisation) in Industry, A. Williams Price, 123
Status of Naval Engineers, M.I. Mech. E., 613
Steam Pressure—*see* Locomotive Boilers
Storage of Coal, H. W. Watts, 19
Supercharging in Internal Combustion Engines, Alfred Büchi, 171
Superheat—*see* Locomotive Boilers
Three-cylinder Locomotives, H. N. Gresley, 123
Variable Blast Pipes and other Matters, Wm. Hy. Robson, 36
Webb's "Precedents," A. J. Brewer, 36; E. L. Ahrons, 36
Webb's Three-cylinder Compound Locomotives, "Dreadnought" Class, F. W. Brewer, 210; E. L. Ahrons, 237

LIBRARIES, Special, Association of, 328, 354
Liquid Fuels of the Future, 91

LITERATURE:
Reviews:
Bau und Betrieb Moderner Konverter-Stahlwerke Kleinbessemereien, Hubert Hermanns, 245, 380
Brassey's Naval and Shipping Annual, 1926, 672
Colliery Working and Management, H. F. Bulman and Sir R. A. S. Redmayne, 673, 698
Conversion of Coal into Oils, Franz Fischer, 298
Design of Railway Location, Clement C. Williams, 432
Electrical Engineer's Data Books, 299, 699
Fair Winds and Foul, Frederick Perry, 219, 299
Health and Environment, Leonard Hill and Argyll Campbell, 192
History of Engineering, A. P. M. Fleming and H. J. Brocklehurst, 554, 699
Jane's Fighting Ships, 1925, 642, 673
Mechanical Inventions of Leonardo da Vinci, Ivor B. Hart, 146
Metalliferous Mine Surveying, F. Winiberg, 245, 467
Motor Ships, A. C. Hardy, 193, 699
Primer of Costing, R. J. H. Ryall, 245, 325
Practical Water Power Engineering, William T. Taylor, 299
Resistance of Express Trains, C. F. Dendy-Marshall, 219
Romance of Navigation, Captain W. B. Whall, 642
Time Standardisation of Workshop Operations, T. Pilkington, 15, 192

Short Notices:
Akershus Elektricitetsverk og Utbygningen av Raanaasfoss Kraftverk, 15, 93
Architectural Practice and Procedure, Hamilton H. Turner, 93
Catalogue of British Scientific and Technical Books, 119
Chemical Engineering Library, 699
Compressed Air and its Machinery, T. H. Plummer, 169
Copper, N. E. Crump, 432, 642
Cost of Freight Transport by Railway, F. W. Rogerson, 554
Directory of Commodity Specifications, 1925, 554
Electrical Industry in France, 299
Electricity and the Structure of Matter, L. Southerns, 299
Fluid Motion, An Introduction to, W. N. Bond, 93
Geological Maps, A. Nelson, 245, 401
Journal of the Institute of Metals, 219
Les Mécanismes, G. Hartmann, 554, 642
Lubricating Oils, Fats and Greases, G. H. Hurst, 554, 699
Männer der Technik, Conrad Matschoss, 15, 169
Marine Engineering Repairs, Engineer-Captain F. J. Drover, 93
Mechanism of the Car, A. W. Judge, 325, 467
Modern Practice in Steam Condensing Plants, A. R. Wright, 169, 219
Periodicities in Climatic and Economic Phenomena and their Co-variation, Axel F. Enström, 119
Phases of Modern Science, 219
Principles of Machine Design, C. Norman, 673, 699
Principles of Sound Signalling, M. D. Hart and W. Whateley Smith, 380, 554
Saw Doctor's Handbook, 353, 642
Scientific Paradoxes and Problems, A. S. E. Ackermann, 432, 467
Steam Boilers, R. D. Munro and G. Ness, 299
Steam Power Plant Engineering, G. F. Gebhardt, 119
Summation of Series, L. B. W. Jolley, 401
Technical Plumbing and Sanitary Science, S. Barlow Bennett, 554, 699

LITERATURE (*continued*):

Books Received :
Aden Port Trust, Report, 1924-1925, 219
A.E.G. Progress, Berlin, 146
All the World's Aircraft, 1925, C. C. Grey, 219
Aluminium Overhead Conductors, 263
American Society of Civil Engineers, "Proceedings," 219
American Society for Testing Materials, Tentative Standards, 554
Annales des Ponts et Chaussées, 245, 401
Annales des Travaux Publics de Belgique, 673
Annali dei Lavori Pubblici già Giornale del Genio Civile, 15, 146, 219, 586
Annual Report of the City Engineer of the City of Providence, R.I., 1924, 146
Applied Mechanics, Delft, "Proceedings" of the First International Congress for, 554
Aprovechamiento de las Energias Naturales, Juan G. Blanco, 353
Arithmetic for Engineers, C. B. Clapham, 432
Atmospheric Pollution, Advisory Committee Report, 93
Austria, Report on the Commercial and Financial Conditions in, O. S. Phillpotts, 554
Autoclaves and High-pressure Work, Harold Goodwin, 15
Bats, Mosquitoes and Dollars, Dr. C. A. R. Campbell, 554
Behind the Counter, W. H. Beable, 554
Blacks and Pitches, H. M. Langton, 193
Bradford Technical College, Prospectus, 219
British Wire Drawing and Wire Working Machinery, H. Dunell, 245
Busk, E. T., A Pioneer in Flight, Mary Busk, 673
Calculations for Steel-frame Structures, W. C. Cocking, 93
Calendar, 1925–6, Royal Technical College, Glasgow, 263
Carnegie Scholarship Memoirs, Vol. XIV., 353
Case Against Nationalising the Banks, O. R. Hobson, 245
Cellulose Ester Varnishes, F. Sproxton, 193
Chemistry of Drying Oils, R. S. Morrell and H. R. Wood, 673
Chemistry of Power Plant, W. M. Miles, 432
China Architects' and Builders' Compendium, 586
City and Guilds of London Institute, Department of Technology, Programme, 325
City of Providence, Annual Report, 219
Combustion, Theory and Practice of, J. E. Lister and C. Harman-Harris, 15
Commercial Credit Risks, A. H. Swain, 93
Concrete, Plain and Reinforced, Vol. I., F. W. Taylor and Others, 642
Confessions of a Capitalist, Sir E. J. P. Benn, 401
Continued Education in London, A Guide to, 432
County Borough of Salford: Borough Electrical Engineer's Report, 1925, 245
Crystal Age, W. H. Hudson, 299
Das Deutsche Patentrecht, Dr. F. Damme and R. Lutter, 673
Department of Overseas Trade:
Economic and Financial Conditions in the British West Indies, Report, J. L. Wilson Goode, 586
Economic and Financial Conditions in Germany, Report, J. W. F. Thelwall, 642
Economic Situation in Angola, Report, A. B. Hutcheon, 642
Egypt, Economic and Financial Situation, Report, E. Homan Mulock, 263
Esthonia, Report, March, 1925, H. M. Grove, 245
Serb-Croat-Slovene Kingdom (Jugo-Slovia) Report, Capt. Murray Harvey, April, 1925, 219
Trade of Syria, Report, H. E. Satow, 219
Deterioration of Structures of Timber, Metal, and Concrete Exposed to Action of Sea Water, Report of Committee, Institution of Civil Engineers, 219
Die Olfeuerung, Bruno Schulz, 586
Die Wasserkraftnutzung in Oesterreich und Geographische Grundlagen, Bartel Granigg, 219
Distillation in Practice, C. Elliott, 15
Elastische Platten, Br. Dr.-Ing. A. Nádai, 15
Electrical Precipitation, Sir Oliver Lodge, 219
Electricity Supply, 1920–1923, 15
Elementary Hydraulics, F. W. Meddaugh, 193
Empire Cotton Growing Corporation, Memorandum by Mechanical Transport Sub-Committee, 554
Empire Forestry Journal, &c., Fraser Story, 263
Erection of Engineering Structures and Plant, H. Atkin, 554
Experimental Investigation into Repetitive Work, Isabel Burnett, 219
Field Engineering, H. Chapin Ives, 325
Fourier's Theorem and Harmonic Analysis, A. Eagle, 353
Fuel Economy and Smoke Prevention, J. B. C. Kershaw, 219
Future, The, A. M. Low, 15
Gas and Oil Engines, Running and Maintenance, P. S. Caldwell, 325
Geshichte des Eisens, Dr. Otto Johannsen, 325
Gold Coast Railway, 193
Grundlagen und Neuere Fortschritte der Zahnraderzeugung, Karl Kutzbach, 93
Grundsätze für die bauliche Durchbildung eiserner Eisenbahnbrücken, 432
Grundzüge der technischen Wirtschafts-, Verwaltungs-, und Verkehrslehre, 93
Handbook on Boilermaking, Kenneth Morrison, 245
Handbook of Cussons' Capstan Block Apparatus for Mechanics, 586
Handbook of Engineering Mathematics, W. E. Wynne and W. Spraragen, 93
High-tension Line Practice, E. V. Pannell, 353
High Vacuum Surface Condensers, O. T. McHutchison, 642
Hornby Book of Trains, 554
How to Judge the Prospects of New Railways, Lieut.-Colonel L. E. Hopkins, 401
Hütte des Ingenieurs Taschenbuch, Vol. I., 673
Hydro-electric Power Commission of Province of Ontario, Report, 263

LITERATURE (*continued*):

Books Received (*continued*):
I Collettori Bassi Delle Fogne di Roma, &c., Giampelino Corsetti, 15
Index to the "Transactions" of the Institution of Naval Architects, 1905–1925, 586
Induction Motor, Herbert Vickers, 146
Industrial Administration, Introduction to, John Lee, 673
Industrial Applications of Coal Tar Products, H. M. Bunbury and A. Davidson, 263
Inorganic and Theoretical Chemistry, Vol. VI., J. W. Mellor, 673
Institute of Marine Engineers, "Transactions," 219
Internal Combustion Engineering, Telford Petrie, 380
International Review of the Science and Practice of Agriculture, 219
Jahrbuch der Brennkrafttechnischen Gesellschaft E.V., Vol. V., 1924, 673
Jamsetji Nusserwanji Tata, Life of, F. R. Harris, 401
Japanese *Journal of Engineering*, Abstracts, 219, 432
Jointless (Magnesium Oxychloride) Floors, P. W. Barnett and B. Bakewell, 401
Journal of the Boston Society of Engineers, 93
Journal of the Bradford Engineering Society, 1923–1924, 586
Journal of the Franklin Institute, 245
Journal of the Iron and Steel Institute, Vol. CXI., G. C. Lloyd, 380
Journal of the Junior Institution of Engineers, 432
Laboratory Experiments for the Engineering Student, Part I., H. Threlfall, 554
Laymen and the New Architecture, 325
Library Catalogue, Junior Institution of Engineers, 245
Loads on Highway Bridges, Report of Committee, 245
Loughborough College Calendar, 1925–1926, 193
Machinists' and Draftsmen's Handbook, Peder Lobben, 93
Manual of Electrical Undertakings, 1924–1925, 642
Marine Diesel Engines, J. W. M. Sothern, 642
Measurement of Humidity in Closed Spaces, Report, Food Investigation Board, 642
Mechanical Testing of Materials, W. M. Crossman, 554
Mechanical World Year Book, 1926, 673
Mémoires et Compte Rendu des Travaux de la Société des Ingénieurs Civils de France, 219, 401
Mercury-arc Rectifiers and Mercury-vapour Lamps, J. A. Fleming, 245
Métallurgie du Cuivre et Alliages de Cuivre, M. Altmayer and Léon Guillet, 15
Metallurgy and its Influence on Modern Progress, Sir R. A. Hadfield, 673
Michigan College of Mines Year Book, 1924–5, 245
Ministry of Public Works Annual Report, 1921–22, Cairo, 401
Modern Railway Signalling, M. G. Tweedie and T. S. Lascelles, 673
Molesworth's Pocket Book of Engineering Formulæ, Sir G. L. Molesworth, 554
Municipal College of Technology, Manchester, Prospectus, 299
Nachschlagebuch der Nachschlagewerke für die Wirtschaftspraxis, Dr. Paul Heile, 380
National Directory of Commodity Specifications, 1925, 432
National Physical Laboratory, Collected Researches, 401
Neuere Methoden zur Statik der Rahmentragwerke, A. Strassner, 586
Oilfield Exploration and Development, Vol. I. and Vol. II., 673
On the Road, W. H. Beable, 401
Operating Engineer's Catechism of Steam Engineering, M. H. Gornston, 93
Oscillographs, J. T. Irwin, 193
Persia, Trade and Industry of, Report, 299
Photo-electricity, H. A. Allen, 353
Physical Metallography, E. Heyn and M. A. Grossmann, 673
Physical Science, An Introduction to, Ivor B. Hart, 401
Pitman's Electrical Educator, Part I., J. A. Fleming, 380
Plastic Magnesia, O. C. Ralston and Others, 673
Polytechnic, Prospectuses of School of Engineering and Courses in Electrical Engineering, 245
Practical Electrical Engineering—Direct Currents, H. G. Cisin, 93
Practical Road Engineering, H. E. Goldsmith, 673
"Proceedings" of American Society of Civil Engineers, 1925, 263, 299
"Proceedings" of the Chemical Engineering Group of the Society of Chemical Industry, 193
"Proceedings" of the Fourth International Congress of Refrigeration, 673
"Proceedings" of the Institution of Mechanical Engineers, 93, 353
"Proceedings" of the Institution of Railway Signal Engineers, 1925, 554
"Proceedings" of Rugby Engineering Society, 299
"Proceedings" of the South Wales Institute of Engineers, 325, 586
Processes of Flour Manufacture, P. A. Amos, 586
Public and its Utilities, W. G. Raymond, 263
Punch Almanack, 1926, 586
Pyrometry of Exhaust Temperatures of Internal Combustion Engines, Charles E. Foster, 146
Questions in Machine Construction and Drawing, W. Bentley, 586
Rahmen Formeln, Dr.-Ing. A. Kleinlogel, 219
Rand Water Board Report, 219
Reibung und Schmierung im Maschinenbau, Dr.-Ing. L. Gümbel and Dr. E. Everling, 93
Reinforced Concrete Dams, E. J. Harris, 245
Reinforced Concrete, Elementary Guide to, A. Lakeman, 245
Reinforced Concrete in Practice, A. A. H. Scott, 219
Relativity, Sir Oliver Lodge, 15
Release of Internal Stress in Brass Tubing, R. J. Anderson and E. G. Fahlman, 219

LITERATURE (*continued*):

Books Received (*continued*):
Resistance of Materials, F. B. Seely, 263
Sewage Purification and Disposal, G. B. Kershaw, 93
Sierra Leone Railway, Report, 1924, 219
South American Handbook, 1926, 673
South Wales and Monmouthshire School of Mines, Calendar, 219
Statik der Boden Konstruktion, Dr.-Ing. W. Schilling, 673
Steam and Hot Water Heating and Ventilation, Practical, A. G. King, 263
Strength and Elasticity of Materials, E. P. Coston, 245
Strength of Materials, J. Case, 401
Strength of Materials, E. R. Maurer and M. O. Withey, 263
Structural Drafting and the Design of Details, C. T. Bishop, 263
Structure of Light, Sir J. J. Thomson, 219
Studies of Curing Concrete in a Semi-arid Climate, Harrison F. Gonnerman and C. L. McKesson, 586
Studies in Repetitive Work, S. Wyatt and J. A. Fraser, 673
Surface Machinery and Methods for Oil Well Pumping, H. C. George, 15
Surface Water Supply of Canada, Arctic and Western Hudson Bay Drainage, &c., 1922–23, 380
Swansea Exchange Annual Report, 1923–24, 401
Tables Annuelles Internationales de Constants et Données Numériques, 15
Tables and Charts, Giving Values of X_n, A. D. Browne, 401
Talks About Wireless, Sir Oliver Lodge, 325
Technical Education: Its Development and Aims, C. T. Mills, 673
Technology Reports of Tohôku Imperial University, 219
The *Ironmonger* Pocket Book, 554
Theory of Measurements, L. Tuttle and J. Satterley, 380
Theory of Structures, H. W. Coultas, 673
Tonnage Measurements, A. Van Driel, 401
"Transactions" of the Institution of Chemical Engineers, 380
"Transactions" of the Institution of Civil Engineers of Ireland, Vol. L., 586
"Transactions" of the Institution of Engineers, Australia, 93
"Transactions" of Institution of Naval Architects, R. W. Dana, 401
Turbines Hydrauliques, A. Rateau and Others, 673
Turning Moments of Conductive Dielectric Ellipsoids, &c., Tetsutaro Miyazaki, 245
University College of South Wales, &c., Joint Diploma in Coal Mining, 219
University of London Faculty of Engineering, Prospectus, 325
University of London, University College, Calendar, 432
Volatile Solvents and Thinners, Noël Heaton, 673
Wasserkraft-Jahrbuch, 1924, 353
Wassermessungen bei Wasserkraftanlagen, Dr.-Ing. L. A. Att, 673
Wire Drawing and the Cold Working of Steel, A. T. Adam, 325
Wireless Time Signals for the Use of Surveyors, A. R. Hinks, 401
Words and Idioms, L. Pearsall Smith, 299

LLOYD'S Register—*see* Ships
Locomotive, 10 H.P. Petrol, "Planet," Kent Construction and Engineering Company, Ltd., 586, 587
Locomotives, Electric, for Mines, Prize Award, 294
Locomotives—*see also* Railway Locomotives
Looms—*see* Textile
Lorry, Steam, 6-Ton, Fodens, Ltd., 644
Lorry—*see also* Motor Vehicles *and also* Electrical Matters
Low-temperature Carbonisation, Future of, 493; (Letters), 613, 647

M

McEWEN-RUNGE Low-temperature Coal Carbonisation System, 249

MACHINE TOOLS:
Auto-lathe, Belt-driven, with 10 H.P. Electric Motor, Alfred Herbert, Ltd., 384
British Machine Tools for Abroad, 274
Duplex Wheel Centre Boring and Turning Lathe, Joshua Buckton and Co., Ltd., 330
High-speed Lathe, Smith, Barker and Willson, Ltd., 171
Hydraulic Flanging Press for Australia, Fielding and Platt, Ltd., 468, 469
Radial Drilling Machine and other Tools for Garages, &c., Drummond Brothers, Ltd., 384
Plate Edge Planing Machine, Large, Smith Brothers and Co. (Glasgow), Ltd., 700
Spiral Bevel Gear Planing, The Rath, 112

MACNICOLL, Donald, Jubilee of the Marine Spring-loaded Safety Valve, 621
Madagascar Water Power Project, F. Reynier, 461
Madras—*see* Floods
Magnetos, Various, "Fabroil" Gears and "Fabrolite," British Thomson-Houston Company, Ltd., 384
Manufacture of Condenser and Locomotive Tubes, Alexander Cameron, 250
Marine Engines—*see* Engines
Marine Spring-loaded Safety Valve, Jubilee of, Donald MacNicoll, 621
Marine Wireless—*see* Wireless
Martin, W. R., on the Davis Steel Wheel, 290
Measured Mile Trials, F. T. Edgecombe, 548
Memorial to the Late Sir Corbet Woodall, 88
Metals, Papers on—*see* Associations, Institute of Metals
Milton, C. O., Working of the Ruston Mechanical Injection Oil Engine, 57
Mines, Electric Locomotives for, Prize Award, 294
Mixers—*see* Asphalt
Modern Foundry Practice—*see* Foundry
Modern Ports, Alfred Schofield, 325
Mole Tile Draining and Tile Drain Ramming Machines, John Fowler and Co. (Leeds), Ltd., 61
Motor Car Engines—*see* Engines

MOTOR CARS AT OLYMPIA:
Characteristics, 382, 402, 438
Motor Cars:
All-steel Citroën, 383
Six-cylinder and Four-cylinder, Armstrong Siddeley Motors, Ltd., 383
Six-cylinder and Four-cylinder, Bentley Motors, Ltd., 382, 383
Six-cylinder and Four-cylinder, Crossley Brothers, Ltd., 383, 384
Large Saloon 16-55 H.P. Chassis, Daimler, 404
Six-cylinder Chassis, Darracq, 438
Eight-cylinder and Six-cylinder Cars, Sunbeam Motor Car Company, 438
Vauxhall 25-70 H.P. Chassis, 403
Six-cylinder American Sleeve Valve with Novel Lubrication System, Willys-Knight, 404
16-35 H.P. Light Saloon, Wolseley, Ltd., 383, 402
Motor Cars, Patented Cast Iron for, E. T. White and Co., Ltd., 438
Garage Equipment, Breakdown Truck, Garage Repair Ramp, Mann, Egerton and Co., Ltd., 439
Power Transmission:
Helicoid Starter Gear, C. A. Vandervell and Co., 439
"Superflex" Shaft Coupling, Simms Motor Units, Ltd., 439

MOTOR Parts and Engines—*see also* Separate Section, Olympia Exhibition
Motor Tractor Demonstration, 522

MOTOR VEHICLES, COMMERCIAL:
457, 485, 512—For Engines *see* Engines
A.E.C. Covered-top Omnibus Chassis, "Ramillies," 457, 458, 459
Albion Thirty-seater Omnibus, 460
Atkinson Uniflow Steam Wagon, 513
Austin Three-speed Tractor, Air Intake Filter, 512
Crossley-Kegresse Lorry, 459
"C" Type and "O" Type Electric Vehicles, Richard Garrett and Sons, Ltd., 459
"Esco" Simplex Wheels, Electric Steel Castings Company, 457
Fifty-two-seater "Leviathan" Omnibus, Leyland Motors, Ltd., 487
Four-cylinder and Six-cylinder Halley Passenger Chassis, 487
Karrier Six wheel Chassis, 512
Lancia "Pentaiota" Chassis, 457
Maudslay Saloon Coach, Thirty-seater, 487
Petrol-driven Fuel Oil Wagon, Pumping, Karrier Motors, Ltd., 487
Scammell Radial-engined Lorry, 515
"Sentinel" Steam Wagons, 457
Sixty-seater "Bristol" Omnibus Chassis, 460
Thornycroft Four-wheel-drive Tractor, 485 (*Two-page Supplement, November 6th*, 1925)
Wagon, Steam Tipping, Yorkshire Patent Steam Wagon Company, 486, 487

MOULDS—*see* Iron
Mowing Machine, Blackstone and Co., Ltd., 644
Mowing Machine Knife-operating Mechanism, Blackstone and Co., Ltd., 61
Mumford, Edwin R., Value of the Experiment Tank, &c., 235

N

NATURAL Alloys, 522
Naval Matters—*see* Ships
Navigation Congress, Date and Programme Arranged, 373
Newcomen Society—*see* Associations
Newspaper Conveyors, American, 610, 619
Niagara Falls, Illuminating, 124

O

OBITUARY:
Barnaby, Sidney Walker, 214
Barnes, John Frederick Evelyn, 85
Bates, Herbert, 438
Bewlay, Hubert, 237
Garfield, Joseph, 237
Halliwell, R. F., 408
Johnson, Brigadier-General R. Marr, 554
Morley, H. W., 612
Myers, William, 673
Sankey, Captain H. Riall (Portrait), 381
Wainwright, Harry Smith, 324
Widdowson, John Henry, 612

OIL Engines—*see* Engines
Oil Fuel Burner, Filma Oil Burners, Ltd., 304
Ollard, E. A., Electro-deposited Chromium, 236
Omnibus, Electric Trolley, Richard Garrett and Sons, Ltd., 196; (Correction), 256
Omnibus—*see also* Motor Vehicle
Orcutt, H. F. L., Ground Gears, 585, 589, 618, 676
Osborne (Adelaide) Power Station—*see* Electrical Matters

P

PALESTINE, Hydro-electric Scheme for, 301
Paper Pulp Mill, 2600 H.P. Motors and 400 B.H.P. Vertical-spindle Motors for, Crompton and Co., Ltd., 95
Paraffin and Petrol Engines—*see* Engines
Paris—*see* Exhibitions

PATENT SPECIFICATIONS, BRITISH:
Aeronautics, 130
Batteries and Accumulators, 78, 177
Condensers and Feed-water Heaters, 391, 655
Cranes and Conveyors, 309, 364
Crushing and Grinding, 363, 392, 506
Dynamos and Motors, 25, 51, 78, 129, 203, 229, 255, 309, 335, 363, 391, 477, 505, 595, 709
Electrical Appliances, 683

PATENT SPECIFICATIONS, BRITISH (*cont.*):
Engines, Internal Combustion, 25, 77, 101, 129, 153, 203, 229, 255, 309, 335, 449, 477, 535, 625, 655, 709
Furnaces, 102, 177, 229, 256, 450, 683
Gas Producers, 52, 153, 363, 391, 568
Lighting and Heating, 204, 477, 506
Locomotives, 52, 204, 230, 535, 655
Machine Tools and Shop Appliances, 130, 154, 178, 204, 256, 282, 310, 364, 392, 420, 567, 626, 684
Measuring and Testing Instruments, 26, 101, 130, 177, 230, 281, 505, 683
Metallurgy, 102
Mining Machinery, 51, 130, 567, 683
Miscellaneous, 52, 78, 102, 154, 178, 204, 230, 256, 282, 310, 336, 392, 420, 450, 478, 506, 568, 656, 684, 710
Motor Cars and Road Traffic, 26, 102, 178, 364, 477, 567, 656
Pumping and Blowing Machinery, 204, 391, 419, 536, 710
Ships and Boats, 154, 204, 450, 536, 684
Steam Generators, 25, 51, 77, 129, 153, 177, 203, 255, 309, 335, 477, 683
Switchgear, 26, 153, 255, 335, 419
Telegraphs and Telephones, 51, 77, 101, 203, 229, 256, 281, 309, 391, 419, 449, 505, 567, 595, 625, 655, 709
Tramways and Railways, 102, 336, 449, 596, 656
Transformers and Converters, 130, 177, 256, 281, 335, 363, 419, 505, 535, 625
Transmission of Power, 51, 449, 505, 535, 567, 595, 655, 683, 710
Turbine Machinery, 203, 281, 449, 595
Welding, 596

PATENTS, Foreign, 412
Perring, W. G. A., Factors Affecting the Resistance of Ships in Waves, 686
Personal and Business Announcements, 26, 52, 78, 102, 130, 154, 178, 204, 230, 253, 279, 307, 364, 392, 417, 447, 475, 500, 536, 568, 596, 626, 653, 681, 710
Petrol Locomotive for an Oil Refinery, Drewry Car Company, 10
Photometers—*see* British Engineering Standards: Specifications
Pile-driving Plant, British Steel Pile-driving Company, Ltd., 636
Pipe Cleaning Apparatus, "Powrecleer," W. and J. Glossop, 676
Pipe Line Construction for Compressed Air Transmission, 261, 268
Pipe Line—*see also* Drac Romanche
Pipe Pusher, Alfred Herbert, Ltd., 643
Pipe Wrench, Thurley Grip-All Company, 294—*see also* Separate Section, Olympia Exhibition
Plain *v.* Roller Bearings for Tramcars, 701
Planing Machines—*see* Machine Tools
Pliers for Making Hose Joints, Sir W. G. Armstrong, Whitworth and Co., Ltd., 636
Ploughing Engine, Petrol, McLaren's, 643
Pope, Sir William J., Faraday as a Chemist, 162, 195
Porosity, 436
Portland Cement, Specification, 386
Poultney, E. C., Two Remarkable Locomotives 371, 378, 439; (Letter), 439
Projectors for Illuminating Niagara Falls, 124
Propulseur Trompe—*see* Acronautics

PUBLIC WORKS, ROADS AND TRANSPORT CONGRESS AND EXHIBITION (1925):
500, 540, 577, 582, 586, 606, 616, 635, 675—*See also* Exhibitions, and for Exhibits *see* Various Headings
Gas Lighting:
Public Lighting by Gas, Automatic Systems, Charles S. Shapley, 607
Valuation of Gas Undertakings for Rating Purposes, George Evetts, 607
Highways:
Public Utility Services Under Highways, G. P. Warner Terry, 606
Trench Openings in Highways, Roland Fletcher, 606
Use of Tar in the Construction of Roadways, Thomas Glover and Arthur E. Collins, 607
Housing: A Brief Review of Some Modern Methods of House Construction, Percy Morris, 608
Land Settlement in New Zealand, 606
Regional Planning and Road Development, Herbert H. Humphries, 608
Roads:
Repair of Roads Against Tramway Tracks, Francis Wood, 608
Scottish Rural Roads: A Suggested Policy, Major W. L. Gibson and Mr. George S. Barry, 608
Sewage Disposal:
Papers, H. C. Whitehead, 540; J. A. Reddie, 540; W. H. Makepeace, 541
Small Holdings, 606
Strengthening Bridges:
Road Corrugation, E. L. Leeming, 607
Strengthening of Bridges C. G. Mitchell, C. S. Chettoe, 607
Transport for Public Cleansing Work, Papers:
Selection of Transport for Public Cleansing Work, J. A. Priestley, 578
Uses of Electricity for Housing and Institutional Purposes, R. Hardie, 607
Water Supply, Papers:
Advisory Regional Committees for Water Policy, D. I. G. Gibbon, 577
Extended Use of Rivers for Domestic Water, Sir A. Houston, 577
Financial Management and Control of Water Undertakings, F. W. Davies, 578
Protection of Underground Supplies of Water, W. B. Cleverly, 578
Regional Policy Committees, M. Ratcliffe Barnett, 577
Water Resources and Supply, A. R. Atkey, 577
PULVERISED Fuel for Boiler Firing in a Paper Mill, Alfred Herbert, Ltd., 292

PUMPS:
See also Separate Section, Olympia Exhibition
Dabeg Feed Pump, Vickers Ltd., 20
PUMPS (*continued*):
Deep Bore-hole Pump, Worthington-Simpson, 296, 302
Fire-engine Pump, 250–300-gallon, Martin Cultivator Company, Ltd., 62
Gas-operated Vacuum Pump, Bertram Joy, 462
Hydro-pneumatic Pumping Plants: Continuous Hydrautomat, Intermittent Hydrautomat, Vacuum Hydrautomat, Hydrautomat, Ltd., 413
Lubricating Oil Pump, Mechanical, W. Foster and Co., 644
Main Engine Pumps, 616, Service Pumps and Heating Boilers of the Swedish Liner Gripsholm, 634, 640 (*Two-page Supplement, December 4th*, 1925)
Marshall Steam Pumping Engine of 1866, 296, 302
Motor-driven Pump, Boulton and Paul, 643
Rees Roturbo Pumps for Drainage Plants, Rees Roturbo Manufacturing Company, Ltd., 562
Stuffing-box for Centrifugal Pumps, Pulsometer Engineering Company, 386
Turbine Pump, Six-stage, Tangyes Ltd., 643
Turbine Pumps for Hydraulic Power Supply, Mather and Platt, Ltd., 354
Wing-Rotor Pumping Unit, 193

R

RAIL Cars—*see* Railways

RAILWAYS AND RAILWAY MATTERS:
General:
Briggs' Railway Collection, 108
Birkinshaw's Malleable Iron Rails, 109; (Letter), 199
Century of Railways, 323
Diesel-electric Rail Cars in Canada, Wm. Beardmore and Co., Ltd., 430, 434
Escalators on the Central London Railway, H. F. Molony, 645
International Railway Congress, 14
Main Line Railway Electrification, Sir Philip Dawson and Professor S. Parker Smith, 182, 208, 341, 423
Railway Accidents, 243
Railway Accidents, Annual Report, 376
Railway Notes, Old and New, Sir John A. F. Aspinall, 510
Railway Relics at Faverdale, 157
Railway Returns for 1924, 170
Railway Statistics for April, 1925, 73
Railway Statistics for May, 1925, 188
British, Colonial and Indian:
Centenary of the Stockton and Darlington Railway, 42
Exhibits, Railway Centenary, at the Science Museum, 409
Diesel-electric Rail Cars in Canada, 430, 434
Federated Malay States Railways, Report, 240
Indian Broad-gauge Railways, Mechanical Couplers for, 694
Metropolitan Railway, Proposed New Line, 677
Southern Railway, New Electric Stock, 44
Foreign Railways:
Main Line Railway Electrification:
Austria, 182, 208
France, 341
France, Paris, Lyons and Mediterranean Railway, 423
France, Midi Railway, 425

RAILWAY LOCOMOTIVES:
General:
American Locomotive Developments, 553
Automatic Control of Locomotives, 547
Centenary of the Locomotive, Institution of Mechanical Engineers, Presidential Address, 40
Compound Locomotives, 118; (Letters), 140, 172, 199, 210, 237, 275, 294, 317, 357, 376, 400, 429, 469, 490, 523, 545, 613, 647, 668
Germany's Locomotive Industry, 523
Locomotive Boiler Feed System, "Dabeg" Feed Pump, Vickers Ltd., 20
Locomotive Boilers and Steam Pressures, 244; (Letters), 294, 317, 357, 401
Locomotive Coal Trials on the Southern Railway, H. Holcroft, 658
Locomotive Feed Heating, 192
Locomotive Valve Gear, Model for, Hunslet Engine Company, Ltd., 140
Narrow-gauge Express Locomotive, Davey, Paxman and Co., 70; (Paragraph), 115
Prosser Locomotives, 511
Steam *versus* Electric Locomotives, Mr. Julius Kruttschnitt's Paper, 237; (Paragraph), 349
Steam Locomotive, 641
Three-cylinder High-pressure Locomotive, H. N. Gresley, 41, 46, 58, 65, 545; (Letters), 123, 210
Two Remarkable Locomotives, E. C. Poultney, 371, 378, 439
Delaware and Hudson Railroad, Two-cylinder Compound Engine, 371, 378
Lima Locomotive Works Eight-coupled Locomotive A1, 439; (Letter), 613
British, Colonial and Indian:
British Steam Railway Locomotive from 1825 to 1924, E. L. Ahrons, 2, 28, 54, 80, 104, 132, 156, 180, 206, 232, 258, 284, 312, 338, 366, 394, 422, 452, 480, 508, 538, 570, 598, 628; (Letters), 36, 88, 123, 140, 172, 173, 198, 199, 210, 237, 275, 294, 317, 357, 376, 400, 429, 469, 470, 580, 668; (Erratum), 481
Period 1870–1875 (continued), 2, 28
Period 1876–1881, 28, 54, 80
Period 1882–1889: Compound Locomotives, 156, 180, 206, 232; Non-compound Locomotives, 258, 284, 312
Period 1890–1900, 338, 366, 394, 422, 452
Period 1901–1914, 480, 508, 538, 570
Period 1914–1924, 598, 628
Articulated, Steep Gradient and Miscellaneous Locomotives, 452
Details, 422, 628
Engines for Ireland and Overseas, 1870–1879, 132
Locomotive Tenders, 628
RAILWAY LOCOMOTIVES (*continued*):
British, Colonial and Indian (*continued*):
Tank Engines, Principal, British Railways, 1901–1914, 538
Train Resistances and Locomotive Performances, 1855 to 1879, 104
Two-cylinder High-pressure Engines, 1890–1900, 366
For Locomotives Illustrated *see* Illustrated Index, Subjects
Engine Built by George Stephenson and Nicholas Wood in 1822, 42
Number of Locomotives, 71
Southern Railway, Express Locomotives, 329
Stephenson's "Locomotion" Drawing Replica of Original Train, 42
Foreign:
Austrian Electric Locomotives, 183, 185
France: Paris-Orleans Electric Locomotives, 343, 425; Midi Railway, Electric Locomotives, 426
Pacific Railway of Colombia, Eight-coupled Locomotive, 224

RATIONAL Calorific Values, 380
Raven, Sir Vincent L., Australia and New Zealand, 466
Reavell, William, on Young Engineers and the Future, 320; (Letters), 357, 376, 470
Rectifiers—*see* Electrical Matters
Refrigerating Machinery for the Upwey Grange, Motor Ship, J. and E. Hall, Ltd., 678
Reinforcement-placing Machine, J. W. Liversedge, 637
Research, Utilisation of, 168
Reservoir—*see* Water Supply
Resistance of Ships—*see* Ships
Ribble—*see* Electrical Matters
Richardson, James, Marine Diesel Engines, 549
Riveted Joints, Tests of, 650
Road Congress—*see* International
Roads—*see also* Public Works Congress
Road-making in China, 693
Road Roller, 3-Ton "Clearside" Tandem Petrol, Robey and Co., Ltd., 582, 588
Road Roller, 9-Ton, "Universal," Marshall, Sons and Co., Ltd., 617
Road Rollers, "Advance," with Scarifying Attachment, Wallis and Steevens, Ltd., 636
Road Rollers, Steam, Aveling and Porter, Ltd., 637
Road Rollers, Steam, Sir W. G. Armstrong, Whitworth and Co., Ltd., 636
"Road Toaster," Roadways Equipment, Ltd., 638
Roadless Traction, Philip Johnson, 324
Roller, 9-Ton Road, 'Universal" Type, Marshall, Sons and Co., Ltd., 60
Roller, 10-Ton Steam, John Fowler and Co. (Leeds), Ltd., 637
Rollers, Motor, Quick Reverse, Barford and Perkins, Ltd., 587
Rolling Mill, High-speed Cold, 688
Rotoscope, A. J. Ashdown, 272
Royal Agricultural Society's Show at Chester, 34, 60
Rudders—*see* Separate Section, Olympia Exhibition
Rugby—*see* Wireless, *also* Electrical Matters

S

SAND and Oil Trap, W. E. Farrer, Ltd., 587
Savage, H. D., Water-cooled Furnace Walls, 121
Scapa Flow—*see* Ships, Naval Matters
Schneider Hydro-mechanical Transmission Gear, Swiss Locomotive and Machine Works, 86, 90
Schofield, Alfred, Modern Ports, 325
Scholarships, Whitworth, Awards, 303
Science and Engineering, Dr. M. I. Pupin, 19
Science Scholarships at Imperial College of Science and Technology, 164
Scientific Basis of Industry, Francis H. Carr, 644
Scientific and Industrial Research Report, Summary of Advisory Council's Remarks, 436
Scottish Shale Industry, Edwin M. Baily, 471
Searchlights—*see* Projectors
Sennar Dam—*see* Dam
Separators—*see* Separate Section, Olympia Exhibition
Sewage Disposal, Various Papers on, H. C. Whitehead, 540; J. A. Reddie, 540; W. H. Makepeace, 541
Sewage Plant—*see* Separate Section, Olympia Exhibition

SHIPS AND SHIPBUILDING:
General:
Conditions in the Shipbuilding Industry, 435, 443
Demarcation and Hours in Shipyards, 435, 443
Engines, Marine—*see* Engines; *also* Separate Section, Olympia Exhibition
Factors Affecting the Resistance of Ships in Waves, W. G. A. Perring, 686
Fifty Years' Evolution in Naval Architecture and Marine Engineering, Sir Archibald Denny, 219, 221
Frictional Resistance of Ships, G. S. Baker, 207
Future of the Motor Ship, Lord Inverforth, 470
High Efficiency Steam Installations for Ship Propulsion, Stanley S. Cook, 270
Lloyd's Register Book, 44
Lloyd's Register Quarter's Shipbuilding, 70, 414
Lloyd's Register of Shipping, Annual Report, 497
Lloyd's Wreck Statistics for 1924, 222
Marine Electrical and Other Devices—*see* Separate Section, Olympia Engineering Exhibition
Measured Mile Trials, F. T. Edgecombe, 548
Plight of the Shipbuilding Industry, 191
Reduction Gears for French Flotilla Leaders, Power Plant Company, Ltd., 499
Rudders and Steering—*see* Separate Section, Olympia Exhibition
Safety Precautions for Oil-engined Boats, 340
Scantling Developments in Iron and Steel Merchant Ships, J. Foster King, 235
Shipbuilding Position, Sir Eustace H. Tennyson d'Eyncourt, 426
SHIPS AND SHIPBUILDING (*continued*):
General (*continued*):
Shipbuilding, Engineering and Machinery Exhibition—*see* Separate Section, Olympia Exhibition.
Shipyard Agreement, A, 697
Some Shipbuilding Conditions, 408
Value of the Experiment Tank, Edwin R. Mumford, 235
British Navy:
H.M.S. Emerald, 580
H.M.S. Nelson, Launch of, 266
Navy and the Nation, 521
New Battleships, 218; (Letter), 294
Naval Matters:
French Naval Renaissance, 407; (Letter), 647
Future of the Battle-cruiser, 671
Naval Engineer Officers, 646
"Solid Smokeless Fuel," Conference, 530
Naval Engineers, 641
Naval Programme, 117
"Nelsons" of the Navy, 351
Problem of the Submarine, 583
Royal Dockyards, 167
Scapa Flow Salvage Operations, 248
Status of Naval Engineers, 585; (Letter), 613
Technical Training for Naval Constructors, Engineer Vice-Admiral Sir Robert Dixon, 286
Warships of the Future, 269
Foreign Navies:
German Light Cruiser Emden, 549
Mercantile and Miscellaneous Vessels:
British Petrol, Motor Tanker, Swan, Hunter and Wigham Richardson, 355
Coastal Motor Boat for Sweden, J. I. Thornycroft and Co., Ltd., 320
Italian Motor Liner, Large, 10
Lloyd Sabaudo Liner Conte Biancamano, Wm. Beardmore and Co., Ltd., 496, 517, 520, 542
Motor Cargo Ship Primero, Burmeister and Wain, 293
Motor Refrigeration Ship Upwey Grange, Fairfield Shipbuilding and Engineering Company, Ltd., 678
Motor Ship Parkeston, 170, 190, 194
Motor Ships for the Australian Meat Trade, 33
Shallow-draught River Steamer Fushun, J. I. Thornycroft and Co., Ltd., 275
Swedish-American Motor Liner Gripsholm, Sir W. G. Armstrong, Whitworth and Co., Ltd., 579, 614, 634, 640 (*Two-page Supplement, December 4th*, 1925)
SHOWS—*see* Exhibitions
Simmonds, O. E., Flying Boat Design, 287
Situation in China, 309
Sixty Years Ago, 15, 33, 71, 97, 114, 149, 163, 193, 214, 245, 277, 303, 317, 357, 373, 409, 432, 462, 499, 518, 546, 588, 612, 642, 673, 702
Smithfield—*see* Exhibitions
Smith-Rose, Dr. R. L., Wireless Wave Problems, 287
Societies—*see* Associations

SOUTH AFRICAN ENGINEERING NOTES:
20, 71, 97, 125, 149, 173, 198, 225, 251, 305, 357, 442, 472, 562, 638, 705
Air Service Next Year, 357
Baldwin Locomotives for South Africa, 71
Big Gold Mines, 71
Big Railway Orders, 225
Building Steel Lighters, 357
Congo Copper, 472
Deep Gold Mining, Village Deep Shaft Down to 6754ft., 71
Durban Docks, Equipping, 357
Durban's Electric Plant, 705
Durban's Electrical Output, 472
Durban's New Power Plant, 21
Electricity Controversy, 562
Founding of the Rand, 563
Gold Mining Dividends, 173
Gould Automatic Couplers, 149
Important Plant Addition, 705
Industrial Production, 705
Lake Arthur Dam, 125
Limit of Deep Mining, 562
Locomotive Boiler Explodes, 705
Locomotive Propaganda, 472
Mine Ventilating Fan, 442
Mineral Output of the Union, 638
Mining Tender Rejected, 149
Natal's Coal Trade, 149
New Dredger for East London, 125
Platinum Discoveries, 251
Platinum Mines Reaching Production Stage, 305
Power Plants, New, for S.A., 97
Powerful New Tug, 305
Prince and S.A. Enterprises, 225
Prince of Wales' Tour, 305
Printing Press, Huge, 225
Production of Pig Iron, 562
Quick Despatch, 357
Railway Progress Since Union, 125
Railways, Proposed New, 225
Reclaiming the Kalahari, 472
Record Maize Loading, 472
Record Run on Narrow-gauge Line, 442
Reduced Gold Value, 173
Rhodesia Railways, 97
Rhodesian Railway Development, 357
Rhodesia's Mining Figures, 20
Sinking, A Record, 149
S.A. Gold Mines in 1924, 638
S.A. Railways' Coal Earnings, 173
S.A.R. Steamships, 562
Steel Lighters, New, 638
Steel Pipe Contract for the Continent, 225; (Correction), 237
Steel Works in South Africa, 97
Tablet Holders for Fast Trains, 71
Twenty-nine Foreign Locomotives, 442
Union Air Mail Terminated, 97
Union Coal Production, 705
Union Exports Motor Cars, 472
Union Mineral Output in 1925, 71
Union Railway Traffic, 562
Union Railway Workshops, 198
Union Rolling Stock, 305
U.S.A. Locomotives in South Africa, 198
Victoria Falls Power Company's System, 251
White Labour Losing Ground in South Africa, 20

SOUTHAMPTON Docks—*see also* Electrical Matters
Southampton Docks, Quay Walls of, F. E. Wentworth-Sheilds, 236
Southwell, R. V., Progress in Aeronautics, 325
Specialisation, 14
Specifications—*see* British Engineering Standards—*also* Patent
Standardisation of Crane Essentials, Edward G. Fiegehen, 600
Standardisation—*see also* British Engineering Standards
Steam Condensation, &c.—*see also* Separate Section, Olympia Exhibition
Steam Engines—*see* Engines
Steam Generating Sets, 25-Kilowatt, at Littleton Pumping Station, Ashworth and Parker, 471
Steam *versus* Electric Locomotives, Julius Kruttschnitt, 237
Steam Turbine and Condenser Test Codes, 401
Steel—*see* Iron
Stereo-Photo-Grammetric Surveying, Bernard J. Woodruff, 454, 481, 515
Stream-line—*see* Filter
Strength, 144
Stresses in Boilers, 611
Stromeyer, C. E., Experiments on Strains in Boilers, 649
Study of Failures, 298
Stump Puller, Trewhella Bros., 643
Submarines—*see* Ships
Sudan Government Railways, "Prairie" Type Locomotives, 246, 247 (*Two-page Supplement, September 4th*, 1925)
Supercharging, 39; (Letter), 171
Supervisory Control—*see* Electrical Matters
Surveying, Instruments for—*see* Stereo
Sweepers, Motor, Lacre Motor Car Company, Ltd., 588

T

TECHNICAL Education, 325
Technical Societies, Papers at, G. S. Baker, 67
Technical Training—*see also* Ships, Naval Matters
Telegraph Factory in 1875, Present-day Cable Testing Department, Johnson and Phillips, 43

TEXTILE MACHINERY AT MANCHESTER:
Artificial Silk Spinning Machine, Power-driven Kneading Machine, Artificial Silk Reeling Machine, Dobson and Barlow, Ltd., 411
Bearings, Ball and Roller, for Textile Machinery, Self-aligning Bearing, Hoffman Manufacturing Company, Ltd., 411
Frictionless Shaft Bearings, Skefko Ball Bearing Company, Ltd., 411
Journal Thrust Bearings, Ransome and Marles Bearing Company, Ltd., 411

TEXTILE MACHINERY AT MANCHESTER (*continued*):
Bobbin Cleaner, Roving, The "Termaco," Terrell Machine Company, 375
Carding Engines, Automatic Feeding Machine for, William Tatham, Ltd., 375
Counting Devices for Textile Machinery, Markt and Co. (London), Ltd., 411
Looms: Wide Sheeting Loom, Towel Loom, Automatic Box Loom, British Northrop Loom Company, 411, 412
Loom, Dr. Carver, Carver Textile Patents, Ltd., 374
Loom, The Souczek, with Shuttle-operating Mechanism, Zandov Ironworks Company, 375
Nasmith Combing Machine, John Hetherington and Sons, Ltd., 411
Ring Spinning Frame, Electric-driven, C.S.L. Flexible Roller, Platt Bros., Ltd., 410, 411
Sectional Superheater, Bolton's Superheater and Pipe Works, Ltd., 410
Swiss Artificial Silk Power Loom and Warping Machine, Benninger, 412
Textile Mills, Electric-driven, Laminated Gears for, Bed-plate with Special Motor, Ball Bearings, Sleeve-bearing Motor, Laminated Gears, Ltd., 410
Winding Machinery for Textile Mills, High-speed Pirn Winder, Metal Swift, Silk Bobbin Winder, Joseph Stubbs, Ltd., 410

THERMIONIC Valve Problems, Professor E. V. Appleton, 271
Thomas, H. Kerr, The Automobile Engineer, 372
Tin Mining, Development of, 293
Tractor, "Fordson," Reavell and Co., Ltd., 636
Tractor, Steam, with Three-speed Gear, Fodens, Ltd., 618
Tractor, Steam, and Two-wheeled Trailer, Tasker, W., and Sons, 643
Tractors—*see* Motor Tractors—*also* Motor Vehicles
Trailer, Self-loading and Tipping, International Harvester Company, Ltd., 35, 36
Training of Engineers, 493, 494
Tramways, Glasgow, Annual Report, 33
Tranmere Dock, Construction of the New Entrance, Percy W. Bertlin, 550
Transport Problems, Lieut.-Colonel H. T. Tudsbery, 324
Transporter, 12-Ton Electric, at Middlesbrough, Cowans, Sheldon and Co., Ltd., 350, 358
Trucks, Turbines—*see also* Separate Section, Olympia Exhibition
"Tructractor," Millars' Machinery Company Ltd., 635
Tudsbery, Lieut.-Colonel H. T., Transport Problems, 324
Turbine, 680–1000 B.H.P. High-pressure Steam, and 1500 H.P. Geared Turbine for Textile Mills, Metropolitan-Vickers, Ltd., 374, 375
Turbines and Generators at Muscle Shoals, 8, 9, 12, 29, 38, 68, 82
Turbines, High-pressure and Low-pressure, for Lloyd Sabaudo Liner Conte Biancomano, 496, 517, 520, 542
Turbines, Hydraulic, for New Zealand, 223
Turbines, Steam, for Mill Rope Driving, Rope Driving Pulley, &c., W. H. Allen, Sons and Co., Ltd., 374
Turbo-generator, 20,000-Kilowatt, for Bradford, English Electric Company and C. A. Parsons, 547

U

UNEMPLOYMENT—*see* Labour
Utilisation of Research, 168

V

VALVE Gear, Locomotive—*see* Railway Locomotives
Valve, Reducing, for Vacuum Automatic Brake, Gresham and Craven, Ltd., 645
Vibration Caused by Traffic, W. P. Digby, 356

W

WAGON, Gravity Type Tipping, Lacre Motor Car Company, Ltd., 582, 588
Wagon, Pig, Steam-driven Six-wheeled, Sentinel Waggon Works, Ltd., 35
Wagon, Steam, Wm. Foster and Co., Ltd., 676
Wagon, Steam, with Four-wheel Brakes, Clayton Wagons, Ltd., 643
Wagon, Steam, R. Garrett and Sons, 644
Wagon, Three-way Tipping Steam, Robey and Co., Ltd., 582, 588
Wagons—*see also* Motor Vehicles
Waste in Engineering, T. R. Wilton, 498
Water-cooled Furnace Walls, H. D. Savage, 121

WATER SUPPLY:
See also Public Works Congress
Durban Water Supply, 701
London Water, 352
Metropolitan Water Board Report, 490
Reservoir, 8-Million-Gallon Covered Service, at Bushey Heath, Colne Valley Water Company, 456, 464
Rugby, New Storage Reservoir, 561

WATT'S Workshop at Heathfield and Facsimile at South Kensington, 114
Welding, Arc—*see* Electrical Matters
Wauchope, H., Southampton Docks Electrical Supply, 270
Wentworth-Sheilds, F. E., Quay Walls of Southampton Docks, 236
Wilson Dam at Muscle Shoals on the Tennessee River, 8, 9, 12, 29, 38, 68, 82
Wilton, T. R., Waste in Engineering, 498
Windlass, 60 B.H.P. Motor, for Cable Ploughing, J. and H. McLaren, Ltd., 60
Windmill Plant, Electrical, Young, Osmond and Young, Ltd., 60
Wing-Rotor, Engineer-Captain Sigurd J. Savonius, 193
Wireless Exhibition—*see* Exhibitions

WIRELESS TELEGRAPHY AND TELEPHONY:
See also Separate Section, Olympia Exhibition
Accumulator, An Improved, Tungstone Accumulator Company, 647
Daventry, High-power Wireless Station at, 110, 116
Exhibits, Wireless, at the Royal Albert Hall, 302
Exhibits, Wireless, at the Royal Horticultural Hall, 409
Inductances for the Rugby Wireless Station, W. T. Henley's Telegraph Works Company, Ltd., 500—*and see below*, Rugby
Interference with Broadcast Reception by Oscillating Receivers, 210
Marine Wireless Apparatus, Major Binyon, 524
Rugby Wireless Station, 82 (*Two-page Supplement, July 24th*, 1925)—*see also* Electrical Matters
Super-heterodyne Receivers, A. E. Bowyer-Lowe, 646
Wireless Beam, 274
Wireless Telegraphy, Professor E. V. Appleton, 271
Wireless Wave Problems, Dr. R. L. Smith-Rose, 287

WOODALL, Sir Corbet, The Late, Memorial to, 88
Woodruff, Bernard J., Stereo-Photo-Grammetric Surveying, 454, 481, 515
Woodworking Tools, A. Ransome and Co., Ltd., 304
Words, 297
Works, New, John I. Thornycroft and Co., Ltd., 549
World Power Conference, 1926, 702
Wrecks—*see* Ships
Wrench, Pipe, Thurley Grip-All Company, 294, 555

Y

YOUNG Engineers and the Future, William Reavell, 320; (Letters), 357, 376, 470

Z

ZINC, Papers on—*see* Institute of Metals

A Seven Day Journal.

A

AERONAUTICAL Research, 205
Air Route to India, 179
Airships as Aeroplane Carriers, 421
Airways, International, 337
All-electric House, 627
Amateur Wireless Achievement, 155
American Petroleum Resources, 179
American Shipping, Future of, 627
Anchor-Cunard Liner Transylvania, New, 283
Austin Motor Company, 283
Automatic Couplings, 27
Automatic Telephones at Leeds, 507
Aviation in the United States Navy, 27

B

BEARDMORE-ROHRBACH Flying Boat, 311
Blue Star Line Orders, 53
Board of Trade Regulations and Shipbuilding Costs, 393
Brennan Helicopter, 365
Bridging the Channel, 311
British Beet Sugar Factories, 421
British Beet Sugar Industry, 53
British Broadcasting Company's Receiving Station, 231
British Industries, Condition of, 283
British Industries Fair, 257
British Railways in 1924, 103
Broadcasting, Problems of, 365
Broadcasting Station, Proposed New, 257

C

CANAL Developments, 79
Carbon Dioxide Leakage from Ships' Holds, 537
Carbonisation Plant, Test of, 451
Cast Iron Houses, 311
Chilean Navy, 337
Closed Dockyards, 627
Clyde Engineering Development, 337
Coal-cutting Machines in Russia, 627
Coal in Devon, 179
Coal Dust Explosions, 479
Coal Dust Explosions, Development of, 569
Coal Industry Inquiry, 179
Coke Oven Practice, 79
Collision at Hope, 257
Committee of Civil Research, 1
Compulsory Arbitration in France, 393
Continental Train Ferry Service, 131
Continuous Goods Brakes, 479
Co-operative Research between Britain and America, 103
Cost of Warships, 155
Cross-Channel Steamer, A New, 103
Croydon Aerodrome, 155
Cunard Liner Alaunia, 79
Cunard Liner Corinthia, 205

D

DECAY of Stone, 231
Devon, New Railway in, 103
Difficulties of British Railways, 597
Dole *versus* Subsidy, 53
Dolgarrog Disaster, 597, 685
Dorchester Wireless Station, 27
Dredging the Danube, 365
Dutch Naval Defence, 27

E

EBB and Flow of Population, 79
Egypt-India Air Services, 685
Electrical Development, 311
Electrical Industry, 53
Electric Power Supply, 569
Electrical Progress, 421
Electricity Charges, 393, 685
Electricity in Mines, 155, 451
Electricity Scheme for the Midlands, 627
Electricity Supply, 597, 657
Empire Exhibition Deficit, 627
Engineers' Club, Birmingham, 283
Engineers' Working Hours, 507
Exhibition at Olympia, 569
Exhibition Trains, 257

F

FACTORIES and Workshops Report, 27
Fleet, Further Reductions in, 451
Flight from Egypt to Nigeria, 337, 479
Floors for Explosives Sheds, 337
Francois Cementation Process, 1
French Navy, 657
French Submarines, 569
French Submarines, New, 257
Fulham, New Electrical Plant at, 393
Funchal Harbour Extension, 479
Future Development of Electricity, 537

G

GAS Engine and Gas Producer Tests, 479
Gas Engineer's Complaint, 451
General Strike, 257
Generation of Electricity in Great Britain, 131
German Amalgamation, 257, 311, 337
German Shipbuilding Failure, 131
Glasgow Electricity Supply, 205
Glasgow's Smokeless Fuel Plant, 283
Glasgow and Wire Rope Tenders, 155
Goods Tube Railway for London, 131, 231
Government Financial Guarantees, 103
Government and Shipbuilding, 537
Grinding Regulations, 337

H

HARBOUR Improvements, Proposed, at Dover, 537
Heavy Oil Engine Working Costs, 569
High-pressure Marine Turbine Installation, 231; (Paragraph), 303
High-speed Oil Engine, New Type, 27
H.M.S. Implacable, 421
H.M.S. Nelson, Features of, 311
H.M.S. Rodney, Launch of, 657
Houses of Parliament, Restoration of, 205

I

IMPERIAL Airways' New Agreement, 685
Industrialists, Opinions of, 283
Inspection of Steam Boilers, 231
Institute of Transport, 365
Ireland, Port Developments in, 311
Iron and Steel Industry, 53

K

KENT Coalfield, Planning the, 27

L

LARGE Marine Oil Engine, 685
Lifeboat Equipment Endurance Test, 451
London to Cape Town Flight, 537
London Docks Telephones, 103
London-San Francisco Cable, 257
Longitudinal Ship Construction Improvements, 311
Lost Time in Industry, 79
Loss of Submarine M 1, 537, 569

M

MACHINERY Orders for Russia, 337
Malay State Hydro-electric Scheme, 657
Marine Oil Engine, A New, 205
Mersey Tunnel, 1, 627, 657
Mine Lighting, Evolution of, 337
Miners' Wages, 479
Mr. Dan Broström, The Late, 103
Motor Ship Dolius, 537; (Correction), 580
Motor Ship Progress, 131

N

NATIONAL Industrial Alliance, 131
Naval Additions, 231
Naval Construction, New, 451
Naval Economies, 205
Naval Floating Dock at Malta, 131
Naval Salvage Operations, Three, 155
Newhaven, Harbour of, 421
Night Flying at Croydon, 337
North British Engine Works, 657
North Petherton Wireless Station, 103
Nottingham Power Station, A New, 311

O

OIL from Coal, 155; (Letter), 199
Oil Tank Explosion, 569
Overseas Markets, 53
Overseas Visitors to Olympia, 597

P

PASSENGER Liners, Size of, 507
Pay of Naval Constructors, 507
Pembroke and Rosyth, 311
Piecework in the Shipbuilding Trades, 337
Planning the New Kelvin Hall, 179
Port of London Improvements, 131
Power Alcohol, 597
Power-house Extensions at Stoke-on-Trent, 421

Power Station Breakdown, 627
Professor Andrew Gray, The Late, 393
Profit-sharing in the Engineering Trades, 103, 205

R

R 33, Reconditioning the, 179
Railway Accidents in France, 179, 205
Railway Developments in Eastern Kent, 79
Railway Orders, 537
Railway Renewals, 421
Railway Traffic, 393
Railways, Working Costs of, 365
Rating of Shipyards and Engineering Works, 393
Rebuilding the German Fleet, 421
Reconditioned Airship's First Trip, 365
Reconditioning Russian Warships, 283
Research Workers, Supply and Utilisation of, 79
Retirement of Mr. H. F. Rutter, 479
Retirement of Professor Watkinson, 27
Road Motor Vehicles, 53
Royal Dockyards, Cost of, 257
Rugby Wireless Telephony Station, 421
Russian Railways, 393

S

SAFEGUARDING the Iron and Steel Industry, 507, 685
Schneider Cup Race, 451
Scientific and Industrial Research, 393
Scott-Still Engines for a New Motor Ship, 627
Severn Barrage Scheme, 155
Shannon Power Scheme, 1, 179, 451, 685
Shenandoah Disaster, 257
Shipbreaking and Shipbuilding, 507
Shipbuilding in Germany, 597
Shipbuilding Industry, Reviving the, 657
Shipbuilding Orders for the Wear, 597
Shipbuilding Trades Investigation, 1, 179, 231
Shipyard Conditions, 365
Shipyard Labour Conditions, 311
Simplification of Industry, 53: (Letter), 123
Sir Robert Bartram, The Late, 155
Sir Adam Beck, The Late, 179
Sir Henry Fowler's Appointment, 131
Sir Alfred Yarrow s Views on the Shipbuilding Position, 657
Size of Coal Wagons, 627
Smoke Abatement, 365
Southern Railway Company's New Electric Services, 479
State of the Steel Industry, 1
Submarine, Completion of a, 597
Swedish-American Liner Gripsholm, 507
Switchgear Developments, 597
Sydney Harbour Bridge, 685

T

TELEPHONE Development in Scotland, 53
Textile Machinery for Russia, 231, 257
Trade Secrets, 421
Transmutation of Metals, 79
Turbo-electric Liner, A Large, 507
Two Naval Disasters, 365

U

UNDERGROUND Railway Extensions, 205
United States Merchant Fleet, 155

V

VICKERS Limited, 685

W

WAGONS, Private Ownership of, 685
Wagons, 20-Ton, 365
Waterloo Bridge Report, 27, 507, 657
Watford, New Line to, 479
Wave Length Tests, New, 231
Wireless Developments, 131
Wireless on Fighting Aeroplanes, 1
Wireless, Future of, 283
Wireless Transmission of Energy, 369
World Power Conference, The Next, 283
World's Largest Motor Liner, 27
World's Largest Motor Refrigerator Ship, 537
Wrecks, 569

Paragraphs.

A

AERIAL Ropeway, 5 Miles Long, for Tin Ore Transport from the Andes Slopes, 349

AERONAUTICS:
Aeroplane as Aid to Fruit Culture, 115
Aeroplanes for Forest Patrol and Photographic Survey in Canada, 115
Aeroplane's Reported 270 Miles per Hour, 356
Aircraft Apprentices, Awards by Air Ministry, 478
Airship Station to Become Beet Sugar Factory, 609
"Autogiro" Flying Machine at Madrid, Successful Tests, 37
Belgian Congo, Establishment of Air Route Expected Shortly, 267
Busk Studentship in Aeronautics, 102
Civil Air Route Between Egypt and India, Progress of Arrangements for, 189
Danish Army Purchase of Aeroplanes from English Company, 89
De Haviland Moth Light Aeroplanes, Two Ordered for Aero Club, 89
Fogs and Safe Landing, New Method to Secure, 433
French Seaplanes and their Men Lost during Trials, 295
Goliath Bombing Planes' Attack on the Riffs, 328
Non-stop Transatlantic Flight Projected, 141
Polo Ground as Landing Ground for Aeroplanes, 491
R 38 Disaster, Tablet Unveiled in Memory of Lost British and Americans, 11
R 38 Memorial Fund, Part of the Income to be Used as a Prize for Technical Paper, 257
Seaplane Race in America, Britain's Entrants Sent Over for Practice, 295
Shenandoah, U.S.A., Airship, Equipment and Successful Trials, 189
AGRICULTURAL Machinery Tests, 63
Alcohol, Industrial, Factory Activities and Prospects, 215
Alcohol Production from North Borneo Palm Sap, 141
Aluminium Hollowware, Duty Asked for, 295
Aluminium Plant in Quebec Calls for Model City to House 5000 Employees, 261
Aluminium Syndicate Formed in Germany, 241
American Society for Testing Materials, 348
Ammonia, Synthesis of, Secrets Connected with Low Temperatures and Pressures, 669
Ammonium Sulphate Recovery Plant at Stafford Gasworks, 695
An Allen's Dinner, 606
Anhydrite as Substitute for Gypsum as Retarder for Portland Cement, 463
Apulia's Need of Water for Agriculture and Kindred Industries, 639
Arsenic Ore Discoveries in South Australia, 551
Arsenic Record Output in U.S.A., 669
Artificial Silk Factory Projected at Oldham, 267
Asphalt Mixing Plant, Davey, Paxman and Co., 628; (Correction), 656
Asphalt Paving Conference, 204

ASSOCIATIONS, INSTITUTIONS & SOCIETIES:
ASSOCIATION, DIESEL ENGINE USERS':
Scottish Shale Oil Industry, E. M. Bailey, 422
INSTITUTE, AMERICAN IRON AND STEEL:
Electric Alloy Steel, F. E. Clark, 581
INSTITUTE, IRON AND STEEL:
Andrew Carnegie Research Fund, 593
INSTITUTE OF TRANSPORT:
Election of the Council, 141
INSTITUTION OF AUTOMOBILE ENGINEERS:
Annual Dinner, 499
Awards of Medals, 405
Conference and Programme, 389
Informal Meeting, Petrol Gauges, 282
Meeting Fixtures, 336
Military Motor Vehicles, Projected Discussion of Paper, 506
INSTITUTION OF CIVIL ENGINEERS:
Awards for Papers, 450

ASSOCIATIONS, INSTITUTIONS & SOCIETIES (*continued*):
INSTITUTION OF ELECTRICAL ENGINEERS:
A.M.I.E.E. Examination, Conditions, 75
Annual Conversazione, 52
Election of New Members of Council, 102
STUDENTS' SECTION:
Visits to Marconi Company's Wireless Stations, 151
INSTITUTION OF ENGINEERS AND SHIPBUILDERS IN SCOTLAND:
Commercial Application of Fuel Oil, A. F. Baillie, 669, 695
Opening of Session, Presidential Address, Programme for Session, 386
INSTITUTION OF HEATING AND VENTILATING ENGINEERS:
Measurement of Air Flow, E. Ower, 377
INSTITUTION, JUNIOR, OF ENGINEERS:
Lecturette on Flow Meters, Rotameter Accuracy, W. H. Simmons, 519
SHEFFIELD AND DISTRICT SECTION:
Visit to D.P. Battery Company's Works, 26
INSTITUTION OF LOCOMOTIVE ENGINEERS:
Development of the Steam Locomotive, J. G. H. Warren, 63
MANCHESTER CENTRE:
Visit to Works of Beyer, Peacock and Co., Ltd., 204
INSTITUTION OF MECHANICAL ENGINEERS:
H.R.H. Duke of York to Attend Annual Dinner, 523
Cancelment of Dinner, 580
INSTITUTION OF MINING AND METALLURGY:
Mr. Marriott's Book, 78
INSTITUTION OF NAVAL ARCHITECTS:
Award of Scholarships, 447
Date for Next Annual Meetings, 491
INSTITUTION, NORTH-EAST COAST, OF ENGINEERS AND SHIPBUILDERS:
Papers for the New Session, 417
Pneumatic Hammers and other Tools, Life of, F. D. Verrill, 551
Presidential Address, Sir E. H. Tennyson d'Eyncourt, 417
INSTITUTION, PERMANENT WAY:
Visits to Works, 102
INSTITUTION OF RAILWAY SIGNAL ENGINEERS:
High Wages in U.S.A. and Canada, Signal Department's Share in Success, Lord Congleton, 433
Register of Appointments Required and Vacant, 377
Three-aspect Signalling Report, 165
INSTITUTION, ROYAL:
General Meeting and Elections, 52, 500, 653
Hundredth Annual Course of Christmas Lectures for Juveniles, Sir W. Bragg, 533, 653
INSTITUTION OF STRUCTURAL ENGINEERS:
Examinations in India, 336
INSTITUTION OF WELDING ENGINEERS:
Mr. A. E. Knowles on Use of Surplus Power of Power Stations, 609
SOCIETY, FARADAY:
Annual Meeting and Election of Council, 89
General Discussion on Photo-chemical Reactions in Liquids and Gases, 279
PHYSICAL AND OPTICAL SOCIETIES:
Exhibition, 653
AUSTRALIAN Commonwealth Engineering Standards, Electrical Matters Decisions, 267
Australian Government Roads Grants, 581
Australian Shale Oil Corporation, Start on Retort House in Tasmania, Oil Expectations, 377

B

BAMBOO Utilisation in Paper Manufacture, Greatly Improved Process, 491
Barnsley College of Mining, Cost of, 639
Barrages Projected Across the Nile and White Nile, 321
Bauxite Deposits in Hungary, 463
Bay of Fundy, Power Generation from its Tides, Project for, 551
Beet Sugar Factory at Cupar, Projected, 349
Beet Sugar Factory in Dunmow District, 215
Beet Sugar Factory, English, but Machinery American, 669
Beet Sugar Factory at Halesowen, Plans may be Transferred to Gainsborough, 609
Beet Sugar Factory on the Ouse, 46
Beet Sugar Factory Projected near Camberley, 241
Beet Sugar Production in Canada, 115
Beet—*see also* Sugar
Belgian Zinc Production, 115
Bell Overhauled After 700 Years' Service, 349
Belt Conveyors to Replace Trucks, 377
Bengal Proposal to Dredge the Saraswati, 609
Blacksmith's Demonstration Motor Van, 115
Boiler Explosion Risk, 165
Boiler Explosions and Imperfect Repairs, 669
Boiler Repair Methods, Good and Otherwise, 669
Boiler, Vertical, Unusual Explosion of, 702
Boiler for Work under 1500 lb. Pressure, 405
Bombay's Projected Chlorination of all the Water from Lake Tansa, 141
Breathing Apparatus, The Draeger, for Mines, 695
Brick-built Chimneys Felled at Bolton, 321
Bridge Across the Niagara River, Work Begun, 241
Bridge, International, Between Detroit and Canada, 491
Bridge, Large Wooden Span Trestle Over the Athabaska River, Canada, 189
Bridge Projected at Hull, 165
Bridge, New, Over the St. Lawrence at Montreal, 63
Bridge, Old Timber, at Seacombe, to be Replaced by Steel, 433, 463
Bridge, South Shore, Montreal Harbour, Plans Sanctioned, 491
Bridge, Suspension, and Cables, Dating Back over Sixty Years, 669
Bridges, Railway—*see also* Railways
Bridges in Virginia, Unsatisfactory Condition of, 433
British Chemical Plant Manufacturers' Association, Meeting, 154
British Columbia Waterway, 295
British Delegation at Trials in Brussels of Motor Lorries Driven by Producer Gas, 321
British Engineering Standards Association, Schedule of Specifications for Steel for Die Blocks, 310
British Export Trade Depression, Report, 165
British Guiana, Air Service *versus* Railway, 581
British Imports into Southern Rhodesia, Very Large Proportion of Total, 551
British Wire Netting Manufacturers Association, 63
Bromine from Sea Water, 115
Bryan Donkin Chesterfield Works Extension, 349
Bulgaria's Imports Increase, 581
Bulgarian Opening for British Trade, 433

C

CABLE-WORKING Under Full Pressure for Ten Months, 165
Cables, Telephone and Telegraph, New in France and Belgium, Tenders, 551
Caen, Normandy, Improvement of Port, 267
Calcium Sulphate Waste for Use in Plaster and Building Blocks, 189
Calcutta Harbour, Increased Traffic Tonnage, 519
Canada, Annual Report on Manufacturing Industries, 433
Canada, Association of Consulting Engineers, Incorporated, 115
Canada's Favourable Balance of Trade, 141
Canadian Automobile Factories' Output, 639
Canadian Exports of Pulp and Paper, 581
Canadian, Formation of New Lake Suggested 551
Canadian Mines, Record Output of Lead, 215
Canadian National Railway New Docks, Wharves and Warehouses for, 491
Canadian National, Removal of Parry Sound Plant, 491
Canadian Section of United States Institute of Radio Engineers, 433
Canal Building, Heavy Task in U.S.A., 519
Canals and Motor Transport, Co-operation Highly Desirable, 405
Capetown Steel Pipes Order for Germany, 37
Carbon Monoxide, Value of Pyrotannic Acid Method for Quantitative Determination, 267
Carbon, Successful Fusion of, 581
Carbon Tetrachloride as Fire Extinguisher, Fumes Reduced by Caustic Soda, 165
Carbonic Acid, Liquid, and Other Gases, Production of, at Stockholm, 491
Cement Factory, Large, Projected at Dunstable, Plant to Turn Out 100,000 Tons Yearly, 189
Cement Factory at Montreal, 115
Cement Factory, New, in Kent, 491
Ceylon Plumbago Trade Improvement, 609
Chefoo, Port of, China, Improvement for Use by Ocean-going Steamers, 88
Chemical Engineers, Training of, Proposed Monotechnic in London, 639
Chemical Works in India and Burma, 37
Chesterfield to Adopt Railless Car System in Place of Tramways, 141

COAL, COKE AND COLLIERIES:
"Asociación Carbonera de Chile" Formed, 608
Barnsley Electricity Works, Coal Discovery in Boiler-house Excavations, 89
Bituminous Coal Output of the United States, 141
British Somaliland Coal Discovery, 89
Brown Coal at Yallourn, Victoria, Cost of Mining and Delivery, 519
California's Abundance of Iron Ore, but Lack of Coke or Coking Coal, 165
Chromium, Electro-deposition of, C. H. S. Tupholme, 163
Coal Briquette Binders, Vegetable Pulp, 519, 581
Coal Discovery at Kamasamudram, Mysore, Not of Commercial Value, 89
Coaling Plant for Durban, Details of, 405
Coke and By-products in the United States, Statistics, 89
Coke-making Plant at Krugersdorp, S.A., Extension of, 695
Coke Ovens, Large, Projected, in Ontario, 165
Factory in Orkney Isles for Coal Briquette-binding Material, 519, 581
Fall of Coal, Extensive, at Yallourn, Victoria, 519
French Production of Coal per Kilowatt Installed, 189
German Coal, Low-temperature Distillation of, in Yorkshire, Interesting Experiment, 267
"Good Day's Work," 4 Tons or 15? 321
Great Britain's Week's Coal Output, 89, 189, 405, 491, 618, 695
Harby, near Lincoln, New Colliery Starting, 321
Holland Coal Exports to Germany, 491
Kent Thick Coal Seam Struck, 463
Pekin, Coal Deposit Discovery, North-east of Summer Palace, 609
Pithead Baths, 120, at Colliery near Sheffield, 349
Polish Coal for Holland, Trial Consignments, 368
Royalties on Coal in Great Britain, 72
Russian Coal for Alexandria, First Shipment in Many Years, 695
Staveley Coal and Iron Company, Sinking Resumed, 463
Support of Underground Workings in the Coalfields of Scotland, Safety in Mines Research Board Paper, 609
Sydney, 60 Miles from, Coal Discovery, 609
Wemyss Coal Company's Developments Under the Forth and Inland, 141
West Yorkshire Coalfield, New Boreholes, 349

COCHIN Harbour Scheme, Third Stage to be Proceeded with, 63
Commemoration Dinner, Joseph Foster and Sons, 130
Concrete and Corrosion, 37
Concrete, Fine Cracks in, Effect of Ageing, 189
Concrete, Process for Manufacturing "Expanded" Type, 551
Concrete "Outfitting Pier" under Construction at Bremerton Navy Yard, Puget Sound, U.S.A., 409
Concrete, Quantities of Materials for, 21
Concrete Sewer Over a Mile Long, Pipe Laid in Open Sea, 241
Contact Prints from Aerial Photographs, 115
Copper Mines in Norway Reopened, 89
Copper Production of Canada, 519
Copper from Union Minière du Haut Katanga, 115
Corn, Standing, to Serve as Snow Fence, 463
Cornish Tin Mine Assay Results, 141
Cornish Tin Mining Industry's Activity, 581
Crane, 100-Ton Shipyard Fitting-out, 11
Crucibles *versus* Electric Furnaces, 677
Crude Petroleum Production Statistics in U.S.A., 321
Cuban Public Works, Extensive, Projected, 165, 189, 241
Cupola Charges of Petroleum Coke, 165

D

DAM, Large, Material Deposited by Belt Conveyors, 215
Dam, Otaki, To be Largest in Japan, Work Started on, 377
Dam, Storage and Power, in Muskoka Lakes District, Ontario, 695
Dam in Victoria for Irrigating Water Storage, 639
Dams, Projected Building of 100 Across the River Tennessee, 669
Darlington Tramways Replaced by Trolley Omnibuses, 215
Death of Mr. William Arnot, 10
Death-watch Beetle Destroyers, 261
Department of Overseas Trade, Information Notice, 21
Derby Railway Institute Radio Society, Visit to Works, &c., 78
Diamond Substitute Discovery, 581
Die Blocks—*see* British Engineering
Distillery for Production of Alcohol from Molasses, 115
Docks, Dry, Two New, in Montreal, 551
Dolcoath Tin Mine, New Shaft, 349
Doncaster Hopes to Replace Tramways by Trolley Omnibuses, 377
Douglas Harbour, Improvement under Consideration, 616
Drilling Operations and Hoped-for Success on the Rand, 609
Dry Dock, 700ft. ex-German, Length Increased, 63
Dry-rot Ravages in Alabama, 267
Durban, New Graving Dock at, 52
Dutch Scheme for Communication by Telephone between Ships at Sea and Land, 241

E

EARTHQUAKES' Slight Effect in Mines and Tunnels, 669
East African Dependencies, Trade and Information Office, 695
Egyptian State Railways Tenders, Revision of List of Approved Manufacturers, 267
El Salvador Republic, Public Works Programme, 669

ELECTRICAL MATTERS:
Aliwal North Electricity Undertaking, 579
Athens Power Works, Proposed, Tenders for, 349
Australian Standard Pressures and Frequencies, 349
Berlin, Projected Increase of Electrical Power, 241
Bohemia Electrification, Power Station at 70 Miles from Prague, 551
Bo'ness Electricity Department, Increased Charges, 382
Cables and Conductors for Montevideo, Tenders Wanted, 361
Canadian Power Companies' Projected Increase of Plant, 581
Cauvery Falls, India, Costly Additional Power Plant for, 63
Charcoal Scarcity and Potential Electric Power at Teheran, 295
Chili State Railways' Electrification Equipment, 695
Cooling of Large Transformers, Successful Method, 405
Copper Wire with Percentage of Cadmium for Electric Transmission, 63
Durban, Tenders for Power Plant for, 249
Durham County Education Committee, Project for Electrical Laboratory, 609
Electrical Breakdown Explained, 89
Electric Furnace Temperatures, French and English Compared, 189
Electric Vehicle Progress, 37
Electric Vehicle's Rapid Delivery, 267
Electricity in Berlin Households, Increased Use of, 405
Electricity Supply Industry, Cost of Living and Reduction of Wages, 37
Eleven 5000-Kilowatt Transformers for Brisbane Electric Light Company, 267
Expert Committee on Electrical Development, Delay in Report Unavoidable, 11
Heating, Electric, Mischief of Secrecy as to Methods, 405
Hereford Projected Electric Extensions, 189
International Conference on High-tension Electric Supply, 151
Irish Free State and Shannon Electricity Bill, 11
Lamp Importation, Large, into Portugal, 37
Lighting, British Thomson-Houston Company's New Showrooms, 21
Lots-road Power Station Plant Increase, 695
Maidstone Committee, Bearsted Supply of Electricity Scheme to Cost £6500, 438

ELECTRICAL MATTERS (*continued*):
Motor, Largest Ever Built for Steel Mill, to be Installed at McKinney Steel Company, Cleveland, 141
National Electricity Scheme Committee, 115
New South Wales State Commission on Electricity, Lapse of, 377
Oland, Island of, Sweden, Proposal to Supply Electrical Power to, 609, 669
Overhead Belt for Supply of Current to Large Rural Area, 115
Paris International Conference on High-tension Lines, 361
Polish Electrical Engineering, Demand for Increase in Import Duties, 471
Power-house at King George's Docks, Calcutta, 89
Power Station Fuel Efficiency at New York, J. B. C. Kershaw, 581
Power Station at Witbank, South Africa, Construction Progress, 295
Queenstown, S. Africa, Development of Electricity Scheme, 463
Switchgear Improvement and Experiments, 241
Sydney City Power-house, Site at Botany Bay, 491
Sydney Power Station, Tenders for Plant to be Invited, 609
Tanjore, Madras, Loan for Electrification, 519
220-Kilovolt Transmission and Flash-overs, R. J. C. Wood, 433
Turbo-alternator, 5000–6000-Kilowatt, for Durban, 463
Turbo-alternator, 10,000-Kilowatt, 321
Units Sold for Cooking Purposes at Cardiff, 491
Victorian Electricity Commission, Sugarloaf Hydro-electric Scheme, 463
Victorian Electricity Commission's Work, 551
Villages near Newton Abbot, Electricity Supply Order, 695

ELECTROPLATERS' and Depositors' Technical Society, 653
Element, New, Discovered by Czech University Professor, 551
Engineering Federation and Trade Unions Conference in London, 11
Engineers' Club Annual Dinner, 475
Engineers and the Colonial Office, 389
Exeter Ship Canal, New Lock Gates for, 115

EXHIBITIONS:
British Industries Fair in 1926, 321, 475
British Industries Fair, London and Birmingham, Invitations to all Parts of the World, 519
Cairo Agricultural and Industrial Exhibition, 349
Cycle Show at Olympia, 293
Electrical Exhibition at Osaka, 267
Fifth International Agricultural Machinery Exhibition in Paris in 1926, 189
German Foundry Exhibition at Düsseldorf, 215
International Agricultural Exhibition at Brussels, 588
International Fair at Salonica, 215
Postponement of Opening, 241, 295
International Motor Trade Exhibition in Copenhagen, 433
International Oil Exhibition at Crystal Palace, 626, 669
International Sample Fair in Havana, 581
Osaka, Electrical Exhibition in 1926, 321, 519
Physical and Optical Societies' Exhibition, 447, 463
Radio Exhibitions in New York, 433
Railway Centenary Exhibition at South Kensington, 377, 463
Universal Smoke Abatement Exhibition in Birmingham, 669

ESTONIA'S Development as an Independent State, 639
Experimental Arch Dam, Construction Started, 551
Explosion of Aluminium Steam-jacketed Pan, Need of Caution, 89
Explosion of Boiler in Steam Trawler, 405
Explosion of Copper Winch Steam Pipe, 639
Explosion of Steam Trap in Important Power-house, 89
Explosion of Steam-worked Digester, 115
Explosions, Stop Valve, Due to Water-Hammer, 321
Explosives for Domestic Industries in U.S.A., Statistics of, 267
Explosives in Mines, Report by Mines Research Committee, 581

F

FACTORY of the Future, Alfred W. Brown, 463
Fairs—*see* Exhibitions
Fan Installed in the Transvaal, Largest in the World, 377
Faraday House, Old Students' Association, Seventeenth Annual Dinner, 417
Ferries, Vehicle, Across Sydney Harbour, 519
Ferry Across the Humber, 639
Finland State Sulphuric Acid and Superphosphate Plant at Kotka, 639
Fire-fighting in Mines, Tests, 115
Fire Float, New, for the Thames, 63
Floating Dock, Ex-German, Section for Scapa Bay Salvage Work, 321
Floating Dry Dock, 700ft. Ex-German, Arrival at Malta, 11; Arrival of Extra Section at Malta, 215
Flood Damage at Worcester to Electricity and Waterworks, 405
Floors of Railway Wagons, Experiments in Replacing Wood and Iron by Cement, 519
Flue Gases from Generating Stations, Value of Unceasing Watch, 377
Forestry Commission Activities, 215, 321
Forest and Fire Protection, 669
Foundry for Harrow School Workshop Projected, 609
Frost Effect on Concrete Dam, California, 63
Fuel Economy Engineering, New Company Started, 547
Fuel Research Work at the University of Birmingham, 551
Furnaces, Electric, in France, Output in 1913 and in 1924, 695

G

GARNET-Ore Finds in Canada, 63
Gas Administration Director Appointed by Board of Trade, 267
Gas Blower Explosions in Mines, Experiments for Prevention, 639
Gas Output, and Coal Consumed in the Industry, Wages and Gas Costs, 519
Gear-cutting Hobs, Examination of, 75
G.E.C. Annual Sports, 52
German Aluminium Rolling Works, Negotiations for Establishment of Syndicate, 189
German Prize for Firedamp Indicator, 433
Gold Medal Award for Paper, 321
Gold Mines, Porcupine, in Ontario, Production Value, 331
Gold Mining Industry, Progress in Ontario, 669
Gold Production of Canada in 1924, Country's Highest Record, 189
Goodwin Sands Shoaling, Gull Lightship and Lighted Buoy Moved, 63
Grain Elevators, Numerous, Projected for Victoria, 241
Grain Elevators, 132 Projected at Country Railway Stations in Victoria, 491
Grain-handling Elevator for Victoria, Vancouver, 463
Graphite Consumption Threatened, 677
Gypsum Production in Nova Scotia, 115

H

HACK Saw Blade, New Type, Frys (London), Ltd., 204
Hacksaw for Wide Cuts, 565
Hardening Drills by Use of a Fresh Herring, 405; (Letter), 429
Helium Gas Wells in Toronto, 669
Helium Production, Experiments in Berlin, 405
High-pressure Trap, Steam Discharge from, 215
High-pressure Turbine, Reported Record, 165
Highway Operations, G. H. Delano, Snowfall Effects, 639
House of Lords Well Provided with Heating Apparatus, 377
Houses of Steel Frames with Concrete Slabs, Erection in Eleven Days, 189
Hughes and Salomons Scholarships, 178
Human Factor in Industry, 653
Humber Navigation, Projected Improvements, 349
Hydraulics, Laboratory of, for Indian College, 639
Hydraulics, Research Institute for, Proposed in Switzerland, 377
Hydro-electric Development at Slave Falls, 491
Hydro-electric Plant in New Brunswick, 189
Hydro-electric Plant, Novel Type, in China, 215
Hydro-electric Power in Norway, French Opinion of its Great Capabilities, 241
Hydro-electric Power Plant of British Columbia Electric Railway Company, 463
Hydro-electric Power in Switzerland, Growth of, 11
Hydro-electric Scheme in British Columbia, 551
Hydrogen Peroxide, Solid Form, British, Placed on the Market, 609
Hydrogen Production by New Method for Ammonia Synthesis, 349
Hydrographer Appointed in Toronto, 165

I

IMPERIAL Institute, Changes, 52, 89
India, Tonnage Entered Into and Cleared Outwards, Statistics, 115
India, Western Coast of, Baroda State New Harbour at Adatra, 519
Indian Boiler Regulations, 1924, Proposed Amendments, 639
Indian and New Zealand's Increased Imports of Motor Vehicles from Great Britain, 695
Indian School of Mines at Dhanbad, 519
Industrial Property Protection, Conference of International Union for, 377
Institutes and Institutions—*see* Associations
Insulating Material in Sweden, Sphagni, 115
International Chamber of Commerce, Annual Meeting of the British National Committee, Sir A. Garrett-Anderson's Speech, 433
International Congress of Design in Paris, 63
International Geological Congress, Programme for 1926, 102
Irish Free State, New Patent Laws, 317
Iron Carbonyl as Anti-knock Agent in Liquid Fuels, 165

IRON AND STEEL:
Algeria, Iron Ore Exports from, 519
Anshan Ironworks' Disappointing Business, 189
Caucasian Manganese Ore Deposits, Projected Development, 463
Cold-rolling Properties of Electrolytic Iron Compared with Open-hearth Steel, 295
Electric Alloy Steel, F. E. Clark, 581
Electric Steel Furnace Statistics, 267
Fine Specimens of Steel-making, 669
Franco-German Iron and Steel Trust, 11
Greatbridge Iron and Steel Works Bought to be Dismantled, 189
Hematite Iron Ore, Very Rich Deposit, in Western Australia, 241
Iron Ore on International Market, Annual Amount of, 463
Iron Ore, Record Huge Export of, from Bell Island, 165
Iron and Steel and their Products in Canada, Statistics for 1924, 241
Lathe Turning of Manganese Steel, 519
Manganese Deposits in Banffshire, Samples Satisfactory, 141
Molybdenum Alloyed with Steel, Value as Deoxidising Agent, 377
Motor, 9000 H.P., for Cleveland Steel Company, 141
NATIONAL FEDERATION OF IRON AND STEEL MANUFACTURERS:
Pig Iron and Steel Production in August, 295
Pig Iron and Steel Production in September, 405
Pig Iron and Steel Production in October 551
Pig Iron and Steel Production in November, 695

IRON AND STEEL (*continued*)
Newfoundland, Question of Royalties on Iron Ores from, 349
Nickel Plating on Exposed Steel Parts of Motor Cars, 463
Nickel-plating, Porosity of, Result of Tests, 267
Nickel Production of Canada, Output of Two Companies, 189
Paint for Protecting Steel Surfaces under Certain Conditions, Tests, 581
Quebec Magnesite Offered for British Steel Trade, 295
Steel Furnaces, Progress in Output and Conditions, 581
Steel Plates, Record Size, 165
Steel Rails Export, Germany's Large Proportion, 695
Steel, Remarkable Claims for New Kind, 349
Steel Structures, Unsuitable for Japan, 377
Stockton, New Wharf Likely to Lead to Continental Trade in Iron, 609
Suffolk Iron Foundry Employees' Outing, 303
Sydney, Nova Scotia, Record Steel Output, 669
Sydney Steel Plant Fully Employed for Canadian National Railways, 609
Tubes, Solid-drawn, of Stainless Steel and Iron, 581
Tungsten, Influence of, on Steel, Research Report, 241
United States, Pig Iron Production, 349
Workington Rail Mills of United Steel Company Restarted, 321

ISLE of Wight in Danger of Coast Erosion, 36
Italian Discovery of Ore Containing Copper Sulphide and Gold, 340
Italian Parliament Telephone Between Chamber and Senate, 241

J

JAMES Keith and Blackman Company, Ltd., Dinner to Directors and Management by Staff, 499
Japanese Patent Office Controller, Visit of, 695,

K

KAMBI Coupling, Swedish Engineer's Invention, 551
Kaolin Discovery on Vancouver Island, 189
Kawasakai Dockyard Company, New Sheet Mill, 463
Kelvin Hall Destroyed by Fire, 37
Kelvin Hall, Glasgow, The New, 241
Korea Experimenting in Cultivation of Sugar Beet, 669

L

LAMBETH Bridge, New, Estimated Cost of, 141
Landslide, Huge, and its Effect, 377
Lantern Slides for Lectures, Tangyes Ltd., 475; Ruston and Hornsby, Ltd., 694
Lead Mining Industry in Teesdale, Progress of New Company, 441
Lead, Reported Discovery of Process for Hardening and Tempering, 189
Leith Harbour and Docks, Projected Additions, 404
Libraries and Information Bureaux, Special, Association of, 78
Lifeboat with Hand Propelling Gear, 164
Lifeboat's Round the World Cruise to Demonstrate Best Outfit Conditions, 433
Lighthouse Fire Puts Danger Signal Out of Action, 37
Lighthouse at River Wear Entrance to be Removed, 215
Lighthouses, Light Vessels, &c., Cost of Maintenance, 89
Lighting in Industry, 295
Lightning Statistics in Kilowatt-hours, 141
Lincoln, William, Obituary Notice, 518
Linoleum Factory for Denmark, 547
Lobito Angola Harbour Contract Progressing Slowly, 581
Loch Katrine, Extensive Alterations to Aqueducts, Sluices, &c., Fine Roadway Made, 11
Locomotive Boiler Explosions and Brass Smoke Tubes, 63
L.C. Council Fellowships, 102
London's Housing, Proposed Use of Colour in the Concrete Employed, G. Topham, 695
London Traffic Advisory Committee, Tubes *versus* Omnibuses, 545

M

MACHINE-MAKING Industry at Chemnitz, Reported Critical State of, 609
Machinery, Light, in Nanking, 551
Magnetic Observatory to be Established at Godhavn, West Greenland, 405
Maidstone Street Bridge Widening, 267
Malachite Mines, Bembe, Angola, 581
Manchester G.P.O. Sorting Office, Facilities for Handling Mail Bags, 295
Manchester, Great Increase in Road Transport, 495
Manganese—*see* Iron and Steel
Manufacturers' Processes Disclosed, Difference between English and American Practice, 189
Marking Ink for Chemical Porcelain, Formula for, 581
Matches, Waterproof, 89
Melbourne and Brisbane, Need of Additional Bridges, 141
Merchandise, Record Amount Handled at Capetown Docks, 669
Mercury Deposit Discoveries in Sumatra, 267
Mersey Tunnel—*see also* Railways
Mersey Tunnel Committee, Engineers Appointed, 349
Metals and Non-metals in Canada, Much Increased Output, 491
Methylated Spirit Production by New Process in Germany too Expensive for Commercial Use, 189

Mica, Domestic Uncut, Statistics of U.S.A. Sales, 215
Milling Plant, Costly, Projected at Calgary, 115
Mine Pressures, Gauge for Measuring, 695
Mine Ventilation Scheme at Randfontein, 519
Mines Department Testing Station, 519
Mineral Deposits in Arctic Regions, Projected Investigation, 377
Mineral Production of Tasmania, 609
Miners' Welfare Work, Costly Grounds, Hall and Baths Opened, 123
Mining and Coal Handling in Victoria, Investigating European Methods, 241
Mining Electrical Engineers, Education and Training of, T. J. Nelson, 609
Mining Industry and Research, E. J. Foley, 433
Mining in New Zealand, Conference, 639
Molybdenum—*see* Iron
Monazite Sand Discovery in Tasmania, 115
Mortar from Slate Dust Mixed with Glutin, 349
Motor Car, English, World's Record in Paris, 349
Motor Car Imports into South Africa, Increase, 95
Motor Omnibus Service, Passenger and Freight between Manchouli, Manchuria, Urga and Saupeitzefu, 609
Motor Road between Liverpool and East Lancashire, 405
Motor Touring in Great Britain, 50 Per Cent. Increase over 1924, 349

N

NATAL'S Greatly Increased Exports, 141
Natural Gas Discovery on North Saskatchewan River, Canada, 695
New Brunswick Power Development Schemes, 115
Newcastle Quay, Proposed Extension, 405
Newcastle and Gateshead, Desired Quayside Improvements, 639
Newcomen, Thomas, and James Watt Anniversaries, 215
Newhaven, Harbour at, Offered to Southern Railway, 412
New South Wales, Safe Working of Coal and Shale Mines, Inquiry, 165
New South Wales State Cabinet and Wireless Schemes, 639
New Zealand, Boring at the Taranaki Oilfields, 519
New Zealand, Greymouth Harbour Board's Projected Improvements, 141
Niagara Falls, Permission for Increased Water Diversion for Power Purposes, 609
Niagara Falls Recession and Effect of, 463, 551
Nickel—*see* Iron and Steel
Nipigon River, Ontario, Expectations from Development of Energy of, 639
Nitric Oxide Production Experiments, 295
Nitrogen Factory, Hitch in Negotiations, 329
Nitrogen Fixation Factory Projected on the Moscow-Nijni Novgorod Railway, 609
Notched Bars, Comparative Impact and Slow-bend Tests on Non-ferrous Alloys and Steels, 267

O

OIL Changes in Rocks Under Pressure, 63
Oil Discovery in China, Transport Difficulties, 115
Oil Engine Power Plant, Tenders Called for, 463
Oil Prospects in Queensland, Dr. A. Wade, 519
Oil Refinery at North Vancouver, B.C., 463
Oil Refining from Bituminous Coal in China, Plant being Installed, 241
Oil Storage Facilities at Grangemouth, 349
Oils, Crude, of the Western Hemisphere, Study of, and Report, 639
One-millionth of a Centimetre for Metal Foils, Reported Process for Production of, 215
Ontario Hydro-electric Power Commission Appointments, 241, 376
Ontario's Water Power Resources, Results of Survey, 115
Oscillograph, Electro-magnetic, New Type, 215
Overseas Trade, Discussion Between Continental Representatives of Britain with Home Manufacturers, 349
Oxygen by Liquid Air Process, Plant at Great Western Railway Works, Swindon, 695

P

PAPER Mill Projected for Fort Alexander, Manitoba, 141
Paper Products from Waste Straw, 491
Patent Laws, Irish Free State, 317
Peat Fields of Alfred, Ontario, to be Reopened, 189
Persia's Mineral Wealth, 295
Petrol-electric Vehicle for L.C.C. Fire Brigade, 189
Petroleum in Africa, Unsuccessful Search Hitherto, 141
Petroleum Prospecting in Spain, 551
Phosphate Deposits Excellent Report, 609,
Phosphate Rock Discovery near Capetown, 115
Photographs Taken by Aeroplane Transmitted East and West America in Half an Hour, 377
Piles, Wooden, Under Water, Means of Cutting Off, 463
Pipe, Huge, Rapidly Moved to New Position, 695
Pipe Line Electrically Welded and Resulting Economy, 581
Platinum Market in London, Scheme to Form Combine, 349
Polytechnic in St. Pancras, New, Grant for, 63
Port Works at Fremantle, W.A., Improved, 463
Portland Cement Output Expected at North fleet, 295
Potash and Rock Salt, Large Deposits Report in the Ruhr Coalfield, 215
Potteries' Gas and Electricity Undertakings, Disappointing Results, 11
Power Alcohol Production from Molasses in Australia, 89
Punjab Government, Water Supply Extension, 639

Q

QUAY, Deep-water, Proposed Construction in Sunderland, 639
Quebec, Power Development on the Batiscan River, 491

R

RADIUM-BEARING Ores, Reported Discovery in the Belgian Congo, 609
Rails, Japan's Decision to Replace American by British, 646

RAILWAYS AND TRAMWAYS:
Aberystwyth, Sunday Excursions to, 89
Accidents:
Buffer Stop Collision at Douglas, 215, 295
Buffer Stop Collision at Luddenfoot, Report, 107
Buffer Stop Collisions, Report on Three, 695
Collision, Slight, at Llandudno, 405, 491
Collision, Slight, at Sheffield, 321
Collisions and Automatic Train Control, 377
Connecting Rod Causes Fatal Accident near West Acton Station, 669
Delaware Disaster near Rockport, U.S.A., An Act of God, 89
Derailment on Stoppage of Boat Train, 241
Doncaster Avoiding Line Accident Recalled, 115
Explosion of Gas Cylinder, Fatal, 348, 377
Fatal Derailment of Express, U.S.A., 500
Fenny-Stratford Disaster, 639, 669
Fog and Accidents, 581
French Railway Collision, Another Fatal, 215
French Train's Disastrous Derailment at Amiens Station, 189
Goods Trains' Collision near Barnard Castle, Report, 241
Head-on Collision in Colorado, Signalman's Presence of Mind, 215
Historical Cases of Shunted Trains being Overlooked, 321
Hope Collision and Deaths of Three Railwaymen, Coroner's Verdict, 321; Report, 669
Level Crossings Accidents in U.S.A., Reduction in, 63
Light Engine Collision at St. Enoch's, Glasgow, 695
Liverpool-street Station Collision Inquiry, Signalman Blamed, 349
Mishap to Motor Car Train near Hollywell, 133
"Movement" Accidents to Railway Servants, 1924, 345
Platelayer Killed in Absence of Look-out Man, 267
Previous Accidents Recalled, 165, 321, 463
Reduction in Number of Accidents to Standard Oil Vehicles Crossing Railways, 695
Report on Collision at Baker-street, 491
Return of Railway Accidents and Casualties, 267
Slight Collision at Wincobank, 581
Track Circuit Failures and Unexpected Causes, 405
Tramcar Running Back and Collision, 405 433
ACWORTH, Sir William, Proposed Memorial to, 551
American Declaration of Independence Anniversary, 11
American Train's 946 Miles Journey in 22½ Hours, 405
American Transportation and Grouping Question, 295
American Views on Railway Working in England, 163
Appointments and Staff Changes, 115, 201, 295, 405, 519, 609
Articulated Cars in America and Great Britain, Advantages of, 215
Automatic Train Control, New System in America, 639, 669
Bengal-Nagpur Railway, Electrification Question, 37
Benguella Railway, Progress Towards Katanga, 551
Birthday Honours for Railwaymen, 37
Bridge, Beira-Nyasaland Railway, Over the Zambesi, 89
Bridge Over the Murray River, Strengthening, 377
Bridge Over River Murray for Through Trains from Melbourne to Adelaide, 165
British Railways, Criticism of, and American Tribute to Efficiency, 215
Buenos Aires, Projected Underground Railway, 171
Business Falling and Railwaymen's Number Increasing, 267
Cambrian Railway's Changes of Fortune, 609
Canadian National Railway to Operate Electric Train Service between Ottawa and Montreal, 165
Canadian Pacific Railway, A 40 Miles Extension, 581
Centenary Exhibition Prolonged, 463
Centenary Memorial Service for Railwaymen, 321
Centenary of Railways' Celebrations, Embarrassing Numbers Taking Part, 349
Centenary of Railways, Old Engines to Go to York Railway Museum, 189
Central London Railway's Birthday, 141
Central Wages Board Meetings, 349, 463
Charing Cross and Metropolitan Junction, Certain Lines Temporarily Closed, 215
Charing Cross Underground Station's Future, 639
Cheshire, Salop and Herefordshire Lines, New Administration Plans, 519
Chicago, Union Station Opened, Particulars of, 215
Chinese Railway in Progress, Details, 295
Chinese Railways' Decreased Receipts, 11
City Railway, Kennington Station Reopened, 63
City Railway, Train Indicators Provided, 463
Closing Branch Lines and Stations, Difference between American and British Regulations, 551

RAILWAYS AND TRAMWAYS (*continued*):
Coal Carriage to Ireland, Government and the Great Southern and Western Railway, 11
Coal Prices and Railway Charges, 141
Coal for Railway Consumption, Prices of, and Railway Charges on Coal Carriage, 695
Death of Mr. J. P. Annett, 639
Death of Mr. Frederick F. Backus, 37
Death of Mr. George M. Basford, 551
Death of Mr. A. W. Gattie, 321
Death of Captain W. J. C. Nash, 89
Death of Mr. William Patton, 165
Death of Mr. J. H. Pinder, 115
Derwent River and Railway Crossings, Additional Lines for Increasing Traffic, 63
Diesel-electric Car's Record Unbroken Trip, 695
Diesel Type Locomotive, Baldwin Locomotive Works, Trial Trips, 63
Dudley-Wordsley Trams to be Replaced by Motor Omnibuses, 89
Dumper, Steam-operated, for 120-Ton Cars, 639
Egyptian State Railways, Tank Wagon Tenders, 519, 609
Egyptian State Railways, Tenders for New Bridge at Alexandria, 320
Engine Driver's Name Given to Locomotive, 581
"Engineer as a Railroad Executive," Remarks by Mr. Julius Kruttschnitt, 349
Escalators and Improvements at Tottenham Court-road, 377
Escalators and Passenger Subway, New, at Trafalgar-square Station, 704
Eskdale Track and 15-Gauge Locomotive, 115
Estonia, Projected New Railway, 267
Euston-square and King's Cross Junction, Progress of Improvements, 11
Ferry Across the Humber, 639
French Express Engine Drivers, Erroneous Report, 349
French Railway Accidents and Automatic Signalling, 609
French Railways and the "Crocodile," Old Invention of Monsieur Lartigue, 433
Garratt Engine, The Late H. W. Garratt, 37
Gauge, British Railways, Eighty Years Ago, 63
German Competition Prize for Stress and Deflection Recorder, 11
Giant's Causeway Hydro-electric Tramway, First in the World, Stand-by Power-house for, 89
Good Men Scarce on English Railways, Sir Felix Pole's Address to Students, 433
Great Indian Peninsula Railway Company Ceases to Exist, Property Passes to State, 41
Great Indian Peninsula Railway, Electrification of Main Line, Cost, 349
Great Northern Railroad (U.S.A.), Risk of Automatic Signalling, 189
Great Southern Railway of Ireland, Urges Reduction of Pay All Round, 241
Great Western Railway:
Accidents to Men in Swindon Works, Reduction in Number of, 267
Changes Foretold in Ownership of Certain Lines in Consequence of Grouping, 491
Coal Dispute Question and Discrimination between Classes of Traffic, General Manager's Warning, 267
Junction Line Projected to Replace Part of Marlborough Branch, 71
Ocean Mails Specials, Record Run, Plymouth-Paddington, 349
Purchase of Nevin Omnibus Company, 267
Swansea Harbour Trust Taken Over by Great Western Railway and Bridge Projected, 267
Swindon to Paddington Fast Run, 141
Track Doubled between Portmadoc and Pwllheli, 141
Vale of Rheidol Railway, Branch Diversion to Main Line Station, 11, 639
Grouping Advantages and Royal Trains, 433
Grouping, and Consequent Available Warehousing Space, 110
Harbin, Manchuria, City Tramway Projected, 321
History of Railways, 127
India, Goods Train Operation, 519
Indian Railways, Two, Secretary of State Decides Not to Purchase, 37
Institutes and Institutions, Railway and Transport—*see* Associations
Interim Dividends of Four Railway Groups, 141
International Railway Congress:
American Choice of Railway Event for Celebration, 11
Congress "Proceedings" Publication Delayed by Printers' Strike, 349
Germany and other Governments' Expected Applications for Admission, 37
International Railway Congress Special to Swindon, 11
Meeting Place for 1930, 11, 37
Soviet Government's Request to Join the Association Declined, 37
International Railway Services and Tariffs, 321
Irish Free State Railways Amalgamated into Great Southern Railway, 165
Irish Road and Railway Transport, Proposed Linking-up, 267
Irish Winter Train Services Reduced, 455
Italian Railway Bridge Fatal Disaster, 405
Italian State Railways, Marked Improvement in Revenue, 691
Japanese Adopt British Type of Rails, 695
Japanese Railways Freight Vehicle Couplings, 321
Khyber Pass Railway Opening, 463
Ladysmith-Touws River Line Opening, 551
Light Railway Orders, 463
Light Railways of 1898, Parts of Scheme Abandoned, 551
Llewellyn, Inspector J. M., Killed at Bristol, 551
London Electric Railways' Extension, 463
London Travellers, Enormous Increase of Journeys, 581
London, Midland and Scottish Railway:
Automatic Signalling between Barking and Bow-road, 140

RAILWAYS AND TRAMWAYS (*continued*):
London, Midland and Scottish Railway (*con.*):
Changes Foretold in Ownership of Certain Lines in Consequence of Grouping, 491
Coal Commission, Director of L.M. and S. Railway to be a Member, 267
Euston to Perth with Only One Stop, 63; Claim Disputed, 89
Fleetwood, Improvements near Passenger Station and Larger Steamers on Belfast Route, 491
Further Widening of Line near Wakefield, 45
London, Tilbury and Southend Electrification Postponed, 89
Motor Cars Over Ferries on the Caledonian Section, Complaints of Excess Charges, 189
Portstewart Station Tramway (Northern Counties Committee) to be Exchanged for Omnibus Service, 491
Relaying Lines with Felt Pads Under Chairs, in Dunblane and Stirling Area, 463
Restaurant Service, Manchester and Birmingham, 519
Season Tickets, Weekly, Liverpool and Manchester, Manchester and Bury, 519
Water Columns and Tanks, Differently Coloured and the Reason for, 561
Winter Service Changes, 349
London and North-Eastern Railway:
Hanging Buffers and Timber Dog, £100 Reward offered for Invention, 673
Hull Dock Warehouse Destroyed by Fire, 669
Liverpool-street and Ilford Proposals, Cost of, 377
Locomotion No. 1 Returned to Pedestal in Darlington Station, 491
Locomotive and Wagon Construction Programme, 551
Pullman Train Changes on the L. and N.E. Railway, 295
Signalman's Action Averting an Accident, 295
Lord Monkswell and the Railways, 519, 609
Mail Service to Belfast and North of England, Improvements, 321
Manchester, Scheme for Tube Railways for, 377
Manchester South Junction and Altrincham Railway, Local Demand for Electrification, 433
Melbourne Cable Tramway Conversion to an Electric Service, 491
Mersey Railway Company's Grievance, 189
Mersey Tunnel Construction Bill Passed, 148
Metropolitan, District and Tubes Railways, Greatly Improved Services, 321
Ministry of Transport:
Appointments to Railway Employment Safety Appliances Committee, 141
Electrification of Railways, Parliamentary Question and Minister's Reply, 241
Fenny-Stratford Disaster Inquiry, 639, 669
Order for Acquisition by Agreement of Land by London Electric Railway, 295
Railway Statistics, Passenger and Goods, for March, 41
Railway Statistics for June, also for First Half of Present Year, 321
Railway Statistics for July, 433
Railway Statistics for August, 581
Railway Statistics for September, 695
Motor Omnibuses to Replace Trackless Trams in Boksburg, 695
NATIONAL UNION OF RAILWAYMEN:
Central Wages Board, Difficulties of Discussion, 405
Circular to the Members Advising Acceptance of Wages Board Award, 669
Coal Dispute and Traffic Handling, Warning of General Manager, 267
Question of Amalgamation with Locomotive Engineers and Firemen Society, 73
Railway Companies' Conference with Trades Unions, 11
Railway Companies' Proposal to Men for All-round Reduction in Directors' Fees, Salaries and Wages, 37, 669
Railwaymen's Wages and Cost of Living, 11, 669
Record Assets Reported, 18
National Wages Board and Railwaymen's Wages, 551, 669
Never-Stop Railway, The One-millionth Passenger, 405
New Zealand Government Railways, Self-propelled Coaches for, 215
North London Railway, Former, Discontinues Second-class Bookings, 295
North London, Travelling Facilities, Public Inquiry, 321
Nova Scotia, Bill for Branch Line Construction Defeated, 37
Oil-burning Locomotive's Wonderful Run, 581
Old-street Underground Station, New Escalator Shaft and Passageway, 37
Oxford Circus Station Reconstruction, 189
Parliamentary Decision Concerns Oldest Existing Railway to have Received Parliamentary Sanction, 463
Parliamentary Powers to be Sought for Works on Various Railways, 581, 609
Passenger Tube Under the Tyne, 490
Pennsylvania Railroad Telephone, Extensive Use of, 215
Pennsylvania System, Retirement of President, 463
Piccadilly Circus Tube Station, Progress, 295
Post Office Trains, 37
Praise of Railway Companies, 639
Pullman Car Non-stop Trains, 581
Punch and Wagon-coupling Accidents, 63
Rail Motor, New Type, 165
Railway Material Exports Statistics, 115, 165, 377, 519
Railway Rates, 50 per cent. Increase, Wages 150 per cent., Material 80 per cent., Sir R. Wedgwood, 519
Railway Rates Tribunal:
Capital of Railway Companies, Tribunal's Decision, 433
Demurrage Charges on Railway-owned Wagons, 165

Railway Rates Tribunal (*continued*):
Economies Arising Out of Grouping, 463
Economies from Grouping not Confirmed by Railway Companies, 405
Postponement of Question of Railway Expenses and Standard Charges, 141
Rating of Railways, 115
Raven, Sir Vincent, Resigning President's Office, 669
Royal Train to North, New Route Taken, 189
Scottish Railway Shareholders and Men's Wages during Government Control, 267
Shopmen's Wages, Court of Inquiry to be Set up, 695
Signal Colours, Two, for Colour-blind and Non-colour-blind, 491
Signalling and Other Appliances, J. E. and J. P. Annett, 639
Signalling Plant, Electro-mechanical, at Belfast, 241
Signalman's Death at His Post, Effect of Block System Signalling, 377
Sir Felix Pole on Peace in Railway Industry, 669
Sleeper Spacing and Axle Loads, A. F. Harvey, 609
South African Railways Workshops, Cost of Extensions, 189
South-East London and Traffic Facilities, 141
Southern Railway:
Charing Cross to Orpington and Addiscombe, Electrification Delayed, 491
Complaints of Overcrowding Due to Bank Holiday Traffic, 189
Concrete Sleepers, Projected Trials of New Type, 700
Criticisms of Electrical Services, 241
Different Electric Systems on Various Sections, 89
Electrical Services, New, and Extensions, 11
Newhaven, Harbour at, Proposed Transfer to Southern Railway, 412
Reconstruction Work on Eastern Kent Section, 37
Restaurant Facilities Extended, 386
Siding, New, at Dorking North Station, 115
Totton, Hythe and Fawley Light Railway and Torrington and Halwill Light Railway Inspected and Opened, 63, 89
Turbine Mail Steamers, Southern Railway, Converted to Oil Burners, 581
Vera and Alberta Steamers, Southern Railway, to be Replaced by New Vessels, 491
Victoria Stations Amalgamation Numbering, 349
Waterloo, Changes of Certain Electric Trains to Relieve Congestion, 609
Wimbledon Station Under Reconstruction, 669
Stephensons, Father and Son, Confusion by Journalists, 89
Stockton and Darlington Railway, Celebration of One Hundredth Anniversary of Opening, 215
Stratford, Gas Standard Obstruction, 215
"Summer Trains," Incorrect Report, 115
Sunday Trains in Scotland, Additional, 405
Swiss Federal Railways, Progress of Electrification of Olten-Berne Section, 141; (Correction), 165
Telephone Booths, 1 Mile Apart for 10,000 Miles Railway, 89
Telephones on Railway Motor Cars in Italy and America, 141
Thomas, Mr. J. H., on the Coal Subsidy and Nationalisation, 241
Tottenham Court-road "Comb" Escalators, 491
Trade Union, New Railway, 89
Tramway Electrification in Reval, Esthonia, 581
Tramway Works at Liverpool, Cost of, 491
Tramways, Limitations of, A. W. S. Herrington, 639
Transandine Railway Boundary Tunnel, 11
Tubes' Decreased Passengers and Receipts Compared with Greatly Increased Prosperity of Motor Omnibuses, 527, 545
Underground Company's Tunnel Connection at King's Cross between Piccadilly and City Lines, 295
Underpinning of Railway Bridge Over London Street, 165
Victorian Government Railways Traffic Statistics, 295
Virginian Railway Electrical Operation, 551
Wages Rate in Pre-war Days, 581
Wagons, High-capacity, All-metal, for Road Stone and Tar-macadam, 295
Wagons, Privately Owned, Reply to Complaints, 491
Watford Extension Opening, 433; Descriptive Brochure of Line, 551
Whitemoor Locomotive Depôt at March, 639
Winter Train Services, Dates for Beginning and End, 295
Woolwich-built Locomotives, 178
Workmen's Unremunerative Fares on Tramways and Railways, 527
REACTION, Incompleteness of, Between Hard Water and Alkaline Reagents Used, 63
Reagent, New, for Copper, Iron and Cobalt in Quantitative Analysis, 267
Reflector, New Type, 463
Reinforced Concrete Building, Highest in the World, 63
Reinforcement of Concrete Pipes, New Method of, H. S. Bower, 519
Research Work, Report of American Bureau of Standards, 11
Reservoir Built in Rapid Time, 551
Resistance to Traction of Passenger Motor Cars and of Pneumatic Tire Wagons on Paved Surfaces and on Gravel, 519
Road Troubles in American Cities as in London, 669
Roads in Hunan, China, Construction Scheme, 639
Roofs, Iron Sheets Outlast Steel, 89
Ropes, Worn, New Instrument for Testing, 695
Royal Scottish Museum Assistantship, Appointment, 89
Rubber Compounding Tendencies, W. B. Wiegand, 321
Rubber Exports from Para, Statistics, 241
Rubber Industry Institution Meeting, 361
Rubber Plantation to be Started in Liberia, 463
Rudder Perforation, A German Invention, 63
Russian Oil Storage Tanks at Avonmouth and Grangemouth, 551

S

SAGUENAY River, Big New Power Development, 141
St. Lawrence Power Development, Project Delayed, 63
St. Lawrence Waterways Deepening, Inquiry by Expert, 115
Salford Centralisation of Transportation System, 695
Salt, First Shipment from New Salt Wells of Alberta Salt Company, 189
Salt Water for Fire Mains, Evil Effects of, 695
Salving of Treasure on P. and O. Mail Boat Egypt, Contract for, 405
Scarborough's New Bridge and Government Grant, 141
Scholarships in Engineering, British Electrical and Allied Manufacturers' Association, 568
Scholarships in Engineering, Norton and Gregory, Ltd., 499
Scholarships in Engineering Offered by Loughborough College, Leicestershire, 695
Scholarships, Hughes and Salomons, 178
Scholarships, Research, in Naval Architecture, 245
Scientific and Industrial Research, Appointments to Advisory Council, 377
Scottish Shale Oil Industry, Position of, 295
Sea Sand in Plaster, Cable Insulation Destroyed by Corrosion, 115
Sennar Dam Opened, 89
Shale Oil Industry in South Africa, Question of State Assistance, 609
Shanghai Strike Troubles and Interrupted Electric Supply, 295
SHIPS AND SHIPPING MATTERS:
British India, In and Out Tonnage Statistics, 267
British Naval Work for the Hellenic Government, 253
Cairn Liner Damage and Quick Repair, 141
Canada's New Ships for British West Indian Trade, 349
Centrifugal Separators for Fuel Oil on Motor Ships, 405
Comet Steamer, Hundredth Anniversary of Disaster, 433
Commonwealth Cruisers, Names of Two New, 695
Destroyer Repairs to be Limited to Dockyards, 215
Flettner Rotor Ship, Finnish Inventor's Improvement, 11
Furness, Withy and Co., Tenders Invited for Ships, British Prices far Exceed Foreign, 89
Fushun, Shallow-draught Steamer, Safe Arrival at Hongkong, 639
Gliding Boat Driven by Aeroplane Propeller, Great Expectations, 267
Harwich–Esbjerg Motor Mail and Passenger Ship Parkeston, Great Advantages of, 349
Kenilworth, 5096-Ton Steamer, Rapid Bunkering and Despatch, 349
Lifeboat Regulations, Fleming Boat Recommended, 89
Machinery Installed in Lake Steamer, Record Speed, 165
Motor Lifeboat, Seventeen Years Old, but Still Doing Good Service, 165
Motor Ship City of Stockholm, 307
Motor Ship Danmark, Particulars of, 377
Naval Building Programme, 1925–6, 215
Oil Tanker to Burn Oil Fuel with Triple-expansion Engines, 349
Orient Line Steamers' Change of Home Port, 215
P. and O. Bombay Liner Ranchi to Start Service, 141
Rotor Ships, Large, for German Government 37
Scapa Flow, Salving of German Destroyers, Progress, 63, 115, 165, 695
Second-hand Steamships' High Prices, 295
Sinking of Mississippi River Steamer, Its Cause, 295
Towing to Buenos Aires from Hull, Four Months' Voyage, 349
Turbine Mail Steamers, Dover–Calais, Two Converted for Oil Burning, 639
Two Cruisers, British, Machinery for, 669
White Star Liner's Stern Frame Rail Journey, Space Required for Transport, 581
Yarrow Experiments and Research Work in connection with High-speed Vessels, 518
SHOWS—*see* Exhibitions
Silting Trouble at Durban Waterworks, 267
Silver-lead Ore Discovery, New South Wales, 519
Silver Wedding Presentation, 565
Singapore Registration Bill for Architects, 499
Smoke Abatement and Lack of Funds, 669
Smokeless Fuel, Discussion of Papers on, 496
Snowdon Mountain Railway, Increased Traffic, 377
Societies—*see* Associations
Sorel's Magnesium Oxychloride, 639
South Africa's Imports of Merchandise, 115
Soviet Union, Progress in Mechanisation in Industry, 321
Steam at Bottom of Vertical Gas Retorts, Results and Tests, 491
Steam Condenser with 70,000 Square Feet Cooling Surface, 267
Steam Power Plant, 100,000 H.P., Projected in Carolina, 639
Stellite, A Cutting Tool, but Not a Steel, E. M. Boote, 551
Suez Canal, Traffic and Revenue Returns, 141
Sugar Beet Factory Projected at Selby, 405
Sugar Factory Erection in Latvia, 377
Sugar Factory at Raymond, Alberta, 581
Sugar—*see also* Beet
Sulphate of Ammonia Plant in Natal Closed Down, 519
Suspension Bridge, New, Over the Delaware River, 63
Synthetic Ammonia, Toulouse Plant for Manufacture of, 349

T

TANKS, Large, for Molasses, 115
Tarmac Works and Plant Projected in East Cleveland, 377
Tasmanian Cement Works Starting Operations, 609
Telephone Call-boxes, Prevention of Eavesdropping, 241
Telephone Circuit and Elimination of Noises, 321
Telephone Development, Great Britain at the Foot of the List of Nations, 63
"Telephone Habit," Post Office Project to Inculcate, 519
Telephone, Long-distance Service, in China, 669
Telephone Statistics, 321
Telephone, Street, Instruments, New System at Dundee, 491
Telephoned Pictures as Part of Press Routine in U.S.A., 43
Telephonic Communication Between London and Frankfort, 165
Tenders for Pumping Station Plant, Cairo, 348
Testimonial to a Distinguished Frenchman, 568
Thermometers for Russia, Centigrade Scale Only to be Used, 405
The Thirty Club, Westminster Dinner, 21
Timber Output for Coming Year in Quebec, Predicted Amount, 695
Timber Sleepers, New Remedy for Worn Spike Holes, 463
Tin Deposits in the Waratah Valley, 463
Tin Mine in Cornwall, Reopening, 115
Tin, Prospecting for, in South-West Africa, 165
Tires Exposure to Damp or Dust, Need of Care, 609
Traction Engines and Rubber Tires, 141, 215
Trade Dispute Statistics for July, 215
Traffic "White Line" at Dangerous Corners, Inventors' Schemes for Improvement, 639
Trepanning Tool, Fry's (London), Ltd., 78
Tunnel Under St. Louis Bay Proposed, 115
Tunnels, Two, Under Detroit River, 551
Turbine Pumps, Large, for Manchester, 420
Turkish Science and Industry Magazine, 405

U

UNDERPINNING Church, Elaborate Process with Steel Pipe Piles, 491
United States National Research Council, Projected Publication of Scientific Data, 620
University College, London, Course of Lectures, Mercury Vapour Lamps and Mercury Arc Rectifiers, Professor J. A. Fleming, 437
University of New Brunswick, Chair of Electrical Engineering, 695
University of Sheffield, Appointments, 78

V

VAUGHAN, Mr. J. A., Retirement of, 463
"Veeder Magnetic Counter," 609
Vehicle Building Industry, New Regulations for, 215
Vehicles, Municipal, Trial of Street Sweepers, &c., 475
Vertical Shaft Sinking, New World's Record, 463
Vickers Group Amateur Operatic Society, 593

W

WAGON and Machine-building Factory, Germano-Bulgarian, 160
Wagons, War Department, 162
Water-hammer and Accident Caused by Failure to Open By-pass, 89
Water Main, 1400ft. Long, Rapid Placing of, 267
Water Power Development in the Punjab, 267
Water Power Developments near Ontario Border, Quebec Contracts, 639
Water Power Plant, 800,000 H.P. for Saguenay, Quebec, 241
Water Softening, Limits of Rate for Filtration, 115
WATER SUPPLY:
Additional Water Supply for Mining Areas near Pontefract, 405
Bradford's Additional Water from the River Nidd, 349
WATER SUPPLY (*continued*):
Capetown Water Supply, Pipe Dimensions for, 165
Chicago Water Consumption, Enormous Tota and Half Wasted, 551
Durban's Water Supply, Progress of Dam Construction, 295
Esthonian Republic, New Waterworks, 333
Household Water Consumption Reduced by Metering, 695
Skegness Water Supply Augmentation, 215
Water Storage Reservoir, Additional, at Milford, near Stafford, 63
WATERPROOF Bags for Transporting Dry Chemicals, Increased Use of, 695
Waves, Sound, and Light, Comparison, 639
Waygood-Otis Club Sports, 21
Weathering of Stone Used for Buildings, 609
Welland Canal, Magnitude of Work, 669
Weymouth Port Development Scheme, 267
Whitworth Society, Summer Meeting, 102
Wire Rope Safety Tests, 491
Wire Rope Strengths, Messrs. Bruntons, 536
WIRELESS TELEGRAPHY & TELEPHONY:
American Encouraging Report of Efficiency of British Wireless Industry, 241
Arctic Circle, 125-Miles Beyond, Wireless Station Opened at Aklavik, 519
Austria, Broadcasting Restrictions and Protection, 321
"Beam" Radio-telegraph Station near Skegness for Communication with India and Australia, 11, 215
Belle Isle New Station, 677
Board of Trade New Wireless Regulation, 37
Bolivia Begins Broadcasting, 669
Broadcast Telephony Conference, 11
Broadcasting from Colliery by Sheffield Relay Station, Great Success, 11
Broadcasting Experiments from Scotch Express, 37
Broadcasting Schemes Projected, Listeners' Requirements, 11
Broadcasting Stations under Construction, World-wide Increase, 349
Broadcasting Stations at Milan and in Czecho-Slovakia to be Opened Shortly, 189
Colombo and Perth, Western Australia, Communication Set up and Experiments in Progress, 669
Commercial Organisation in Isolated Parts of the World, Wireless Installations, 11
Cork Harbour Pilot Boat, Wireless Installation for, 37
Deep Sea Fishermen Mission, New Steamship Fitted with Wireless Transmitter, 11
French Broadcasting Stations, Comparative Strength Shown by Experiments, 295
Geneva Broadcasting Troubles, 639
German Wireless Industry Progress, 141, 215
Greek Government and Wireless, 141
Heating Filaments of Wireless Valves, Dr. J. H. T. Roberts' Invention, 11
High-powered Wireless Stations in Jamaica and Bermuda, 37
Hilversum (Dutch) Station as Rival to Daventry, 519
Leeds and London, Broadcasting Arrangements, 377
Lighthouse Equipped for Wireless in Canada, 321
Lightning Effect on Wireless Apparatus, 377
Liverpool Broadcasting Station Accident, 321
Queensland Broadcasting Service, 321
Receiving Sets in Chile, 463
Receiving Sets Repair, Suggested Body of Expert Maintenance Men, 37
Receiving Sets Without Special Batteries 433
Seoul, Korea, Broadcasting Station, 695
Studio, Wireless, Large New, for London Station, 241
Trinidad Wireless System Reconstruction, 581
Two-way Communication between Kohat (North-West Indian Frontier) and Caterham, Record, 491
Vessels of Rio de Janeiro Company to be Equipped with Powerful Marconi Installations, 491
Wireless Goods in British Market, Protection Sought Against Foreign Underselling, 349
Wireless International Conference at Geneva, 37
Wireless Telegraph Station at Salinas, under Brazilian Department, 433
Wireless Telegraphy (Explanation) Bill, 37
WOLFRAM Deposit Discovery in South Africa, 609
Workshop Suggestion Schemes, 361
World Power Conference, Permanent Committees to be Set up for each of Participating Countries, 695

Y

YANGTZE Engineering Works, near Hankow, Resumes Operations, 89
Yarrow Boilers with Superheaters for Portsmouth Dockyard Power Station, 695
York Omnibuses, Trolley and Petrol, Show Profit, but Loss on Tramcars, 349

Z

ZINC and Lead, Large Manufacturing Plant for, Projected in Quebec, 165
Zinc Ore in Spitzbergen, Large Deposits, 581
Zinc Refinery, Large New, in Canada, 187
Zululand Harbour Proposed, Cost of Such Undertaking, 551

PRINTED FOR THE PROPRIETORS BY GEORGE REVERS, LIMITED, AT GREYSTOKE PLACE, FETTER-LANE, LONDON, AND PUBLISHED BY ARTHUR RONALD VAUGHAN AT THE ENGINEER OFFICE, 33, NORFOLK-STREET, STRAND IN THE PARISH OF ST. CLEMENT DANES, IN THE COUNTY OF MIDDLESEX.—FRIDAY, JANUARY 22, 1926.